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Dr. James McCosh.

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God's government from
a lawyer's standpoint

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GOD'S GOVERNMENT,

FROM

James McCosh

A LAWYER'S STANDPOINT.

AN ARGUMENT,

DESIGNED TO PROVE:—

1. The Existence of God, without a Bible;
2. What we may know of God, without a Bible;
3. That to know God sufficiently, a written revelation, like the Bible, is necessary;
4. That the Bible, alone, contains a written revelation from God; and
5. That no man is excused from obedience to what is commanded in the Bible

TO WHICH ARE ADDED—

6. An Easy Method of Interpreting the Bible;
7. An Outline of what the Bible teaches;
8. A Dissertation on the Creeds, Confessions of Faith and Religious Sects which are based on the Bible, in whole or part;
9. A Reconciliation with reason of seeming Mysteries of the Bible; and
10. An Appeal urging Acceptance of the Bible.

By a Member of the New York Bar.

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SHORT TITLES.

1. Existence of God without a Bible.
2. Knowledge of God without a Bible.
3. Necessity of a Bible.
4. The Only True Bible.
5. The Bible for Every Man.
6. Bible Methods.
7. Bible Outlines.
8. Bible Sects.
9. Bible Mysteries.
10. Accept the Bible.

KEY NOTES,

SOUNDED BY A FEW REPRESENTATIVE AUTHORS.

"The distinction between Matter and Spirit is almost universally recognised even by those who have given little thought to such subjects. * * * * * Some Philosophers, in their speculations, however, have denied that there is any such thing in existence as Matter. Bishop Berkeley, for example, taught that the impressions which we suppose that we receive from material objects do not come from real substances, but are the 'effects of the immediate agency of an ever-present Deity.' * * * * Hume went beyond Bishop Berkeley, denying even the existence of the soul as an individual and responsible agent. He made every thing to consist of ideas and impressions, and said that these have no necessary connection, but are 'a bundle of perceptions that succeed each other with inconceivable rapidity, and that, therefore, I myself of to-day am no more the myself of yesterday or to-morrow than I am Nebuchadnezzar or Cleopatra.'"—HOOKER:—*Natural Philosophy*, pp. 13, 14.

"In every Science there are two factors: facts and ideas; or, facts and the mind. Science is more than knowledge. Knowledge is the persuasion of what is true, or adequate evidence. But the facts of Astronomy, Chemistry, or History do not constitute the science of these departments of knowledge. Nor does the mere orderly arrangement of facts amount to science. Historical facts, arranged in chronological order, are mere annals. The philosophy of history supposes those facts to be understood in their casual relations. In every department, the Man of Science is assumed to understand the laws by which the facts of experience are determined; so that he not only knows the past, but can predict the future. The Astronomer can foretell the relative position of the heavenly bodies for centuries to come. The Chemist can tell, with certainty, what will be the effect of certain chemical combinations. If, therefore, Theology be a Science, it must include something more than a mere knowledge of facts. It must embrace an exhibition of the internal relation of those facts, one to another, and each to all. It must be able to show that if one be admitted, others cannot be denied."—CHARLES HODGE;—*Systematic Theology* Vol. I, p. 1.

"Mr. J. S. Mill recommends those who would establish the Existence of God to stick to the argument from Design. As it is lawful to learn wisdom from an opponent, I take his counsel; and I stand by the evidence furnished by the Order and Adaptation in the Universe."—McCOSH;—*Christianity and Positivism*, p. 1.

"Herbert Spencer tells us that Chemists have shown that many supposed organic substances are inorganic. Be it so, that men have made a mistake in the past which they are seeking to rectify in the present. And then, in the usual dogmatic way of a man who may see clearly much truth, but does not see other truths by which it is modified, he assures us that no Chemist doubts but he will be able to turn inorganic into organic matter. All I have to say on this is, that when the Chemist has done it, I am confident I will be able to point out a curious Adaptation in those conditions previously unknown, but now known, by which he has accomplished the feat."—McCOSH;—*Christianity and Positivism*, pp. 23, 24.

"It is in direct opposition to natural chemical affinity that organized beings exist."—HENRY JAMES CLARK;—*Mind in Nature*, p. 7.

"It is a step to have it proved, that there must be something in the world more than what we see. It is a further step to know, that, amongst the invisible things of nature, there must be an intelligent mind, concerned in its production, order and support. These points being assured to us by Natural Theology, we may well leave to Revelation the disclosure of many particulars, which our researches cannot reach, respecting either the nature of this Being as the original cause of all things, or his character and designs as a moral governor."—PALEY ;—*Natural Theology*, school edn., p. 295.

"The ultimate problem of Physics is to reduce Matter, by analysis, to its lowest condition of divisibility, and Force to its simplest manifestation ; and, then, by synthesis, to construct, from these elements, the World as it stands. We are still a long way from the solution of this problem : and when the solution comes, it will be one more of Spiritual insight than of actual observation."—TYNDALL ; *Fragments of Science* p. 100.

"The question of questions for mankind—the problem which underlies all others, and is more deeply interesting than any other—is the ascertainment of the place which Man occupies in Nature, and of his relations to the Universe of things."—HUXLEY ; *Man's place in Nature*, p. 71.

"There is no evidence that Man was aboriginally endowed with the ennobling belief in the Existence of an Omnipotent God. * * * * This question is, of course, wholly distinct from that higher one, whether there exists a Creator and Ruler of the Universe ; and this has been answered in the *affirmative* by the highest intellects that have ever lived."—DARWIN ;—*Descent of Man*, Vol. I, p. 65.

"Astronomy is the most perfect of Sciences. The accuracy of the present theory of the planetary movements is tested, daily and hourly, by the most delicate experiments ; and the Legislature, if it so pleased, might enact the first principles of these movements into a statute, without danger of commiting the law of England to falsehood. Yet, if the Legislature were to venture on any such paternal procedure, in a few years Gravitation itself would be called in question, and the whole science would wither under the fatal shadow." FROUDE ;—*Short Studies on Great Subjects*, p. 167.

"All the objections, which can with any color or pretence be alleged against the Scriptures, have, at different times been considered and answered by men of great learning and judgment, the result of whose inquiries we have attempted to concentrate in the present volume ; and several objections, particularly those relative to the Mosaic history of the Creation and of the Deluge, have been demonstrated to be groundless and frivolous. But even though all the difficulties, that are alleged to exist in the Sacred Writings, could not be accounted for, yet this would be no just or sufficient cause why we should reject the Scriptures : because objections are for the most part impertinent to the purpose for which they were designed, and do not at all effect the *evidence* which is brought in proof of the Scriptures ; and if they were pertinent, yet unless they could refute that evidence, they ought not to determine us against them."—HORNE ;—*Horne's Introduction*, Vol. I, p. 180.

"In the beginning, God created the Heaven and the Earth." GENESIS ;—First Chapter, First Verse.

"But when the Pharisees had heard that he [Jesus] had put the Sadducees to silence, they were gathered together. Then one of them, which was a Lawyer, asked him a question, tempting him, and saying :—Master, which is the great commandment in the Law ? Jesus said unto him :—Thou shalt love the LORD thy GOD with all thy heart, and with all thy soul and with all thy mind. This is the first and great commandment. And the second is like unto it :—Thou shalt love thy neighbor as thyself. On these two commandments hang all the Law and the Prophets. MATTHEW ;—Chapter 22 ; Verses 34—40.

"All things work together for good, to them that love God. ROMANS ;—Chapter 8, Verse 28.

"The grace of our Lord Jesus Christ be with you all. Amen." REVELATIONS ;—Last Chapter, Last Verse.

TO

JOHN DOE,

THE INTELLIGENT SKEPTIC,

AND TO

RICHARD ROE,

WHO ACCEPTS THE BIBLE UPON AN UNREASONING FAITH,

AND TO

ALL INTERMEDIATE CLASSES OF THINKERS,

Between the extremes of Infidelity and Credulity,

THIS WORK

Is Affectionately Inscribed

By

THE AUTHOR.

CONTENTS.

PAGE.
Title Page 1
Copyright 2
Short Titles 3
Key Notes 4
Dedication 6
Contents 7
Preface 17
Introduction 23

I.—THE EXISTENCE OF GOD, WITHOUT A BIBLE.

1. Fundamental Principles 31
2. The Initial Inquiry 73
3. The Conceivable and the Inconceivable 77
4. Naught but the Conceivable is susceptible of Proof 95
5. Rules of Evidence 97
6. Simplication of Proofs 104
7. Affirmative Proofs 108
8. Contradictory Proofs 123
9. Comparison of Proofs 135
10. Logical Conclusions. 148

II. WHAT WE MAY KNOW OF GOD, WITHOUT A BIBLE.

1. God a Spirit
2. God Infinite
3. God Eternal
4. God Unchangeable
5. God's Wisdom

6. God's Power
7. God's Holiness
8. God's Justice
9. God's Goodness
10. God's Truth.

III. TO KNOW GOD, SUFFICIENTLY, A WRITTEN REVELATION LIKE THE BIBLE, IS NECESSARY.

1. Revelation Defined
2. Revelation should be gradual
3. Revelation should accompany Man's History
4. Tradition unreliable
5. Revelation best preserved by Writings
6. Possibility of a Written Revelation which Man may certainly know proceeds from God
7. Probability of such a Revelation
8. Necessity of such a Revelation
9. Objections Answered
10. Revelation necessarily Limited.

IV. THE BIBLE, ALONE, CONTAINS A WRITTEN REVELATION FROM GOD.

Part I. The Bible as a collection of Ancient Writings.

1. Origin of Writing
2. Original Ancient Manuscripts; all perishable; and comparatively few remain
3. Manuscript Copies
4. Printed Copies
5. Why were not the original Ancient Manuscripts of the Bible miraculously preserved down to the present time?
6. Ancient Legal Documents; how established

7. Ancient History; how authenticated
8. The Bible is subject to the same tests as other Ancient Writings
9. The tests applied, and the genuineness and authenticity of the Bible established
10. The Bible consistent with Science.

Part II. The Bible contrasted with other writings, Ancient and Modern, which profess to be of Divine Origin.

1. Mythology
2. The Shasters
3. The Vedas
4. The Koran
5. The Old Testament Apochrypha
6. The New Testament Apochrypha
7. Revelations of Swedenborg
8. The Book of Mormon
9. Spiritualism
10. Miscellaneous

V. NO MAN IS EXCUSED FROM OBEDIENCE TO WHAT IS COMMANDED IN THE BIBLE.

1. Law in General
2. Divine Law
3. Human Law
4. Obedience to Law indispensable
5. What constitutes Excuse
6. Uncivilized Man has no Excuse
7. Half civilized Man has no Excuse
8. Enlightened Man has no Excuse
9. Disobedience without Knowledge
10. Disobedience with Knowledge

VI. AN EASY METHOD OF INTERPRETING THE BIBLE.

Part I. Prominent Facts, and Rules of Interpretation.

1. The Bible written by Man
2. The original Languages in which the Bible was written
3. Translations of the Bible
4. The Bible written for Man
5. Man's Standpoint in the Bible
6. God's Standpoint in the Bible
7. Man's Mental Capacity limited
8. God's Mental Capacity unlimited
9. Rules of Interpretation
10. The Entire Universe under a Divine Government.

Part II. The Divine Government in the Universe, as Revealed in the Bible; aided by Science.

1. The uncreated intelligent First Cause, viz: God the Father.
2. The uncreated intelligence, begotten of the Father, viz: God the Son.
3. The uncreated intelligence, proceeding from the Father and the Son viz: God the Holy Ghost
4. The Constitution of these three in one God, viz: The Godhead.
5. The created non-intelligent abode of God, viz: Heaven.
6. The rational created intelligences of Heaven, viz: Angels and their kind.
7. The created non-intelligent & inert elements, viz: Matter,
8. The created non-intelligent & vital things, viz Plants. a~~ccompaniments of Matter, viz: Physical Forces.~~
9. The irrational created intelligences of the Earth, and, it may be, of other worlds, viz: The Lower Animals.
10. The rational created intelligences of the Earth, and it may be, of other worlds, viz: Mankind.

VII. AN OUTLINE OF WHAT THE BIBLE TEACHES.

INTRODUCTION.

1. Obedience
2. Sacrifice
3. Circumcision
4. Covenant
5. Doctrine
6. Prophecy
7. Baptism
8. Atonement
9. Resurrection
10. Judgment.

VIII. A DISSERTATION ON THE CREEDS, CONFESSIONS OF FAITH AND RELIGIOUS SECTS WHICH ARE BASED ON THE BIBLE, IN WHOLE OR PART.

Part I. Creeds and Confessions of Faith.

1. The Decalogue
2. The Apostles Creed
3. The Nicene Creed
4. The Athanasian Creed
5. The Decrees of Trent
6. The Lutheran Confession of Faith
7. Calvanism
8. The Thirty-nine Articles of the Church of England
9. The Westminster Confession of Faith
10. Miscellaneous.

Part II. Sects, numbering More than One Million Adherents

1. The Jews
2. The Roman Catholics
3. The Greek Church
4. The Lutherans
5. The Calvanistic Churches
6. The Anglican Church
7. The Presbyterians
8. The Baptists
9. The Congregationalists
10 The Methodists.

Part III. Sects, numbering Less than One Million Adherents.

1. Quakers
2. Swedenborgians
3. Moravians
4. Unitarians
5. Universalists
6. Brethren
7. Mormons
8. Evangelical Union
9. Irvingites
10. Miscellaneous.

IX. A RECONCILIATION WITH REASON, OF SEEMING MYSTERIES OF THE BIBLE.

1. What is Mystery
2. Necessity of Mystery
3. What is Reason

4. Perfection of Divine Reason
5 Imperfection of Human Reason
6. Doctrine of the Trinity
7. Predestination and Free Agency
8. Everlasting Damnation and Infinite Mercy
9. Other Doctrines
10. A general Reconciliation of all Doctrine.

X. AN APPEAL URGING ACCEPTANCE OF THE BIBLE.

1. General Review
2. God the Creator and Man the Creature
3. God's Wisdom and Man's Folly
4. God's Power and Man's Weakness
5. God's Holiness and Man's Depravity
6. God's Justice and Man's Tyranny
7. God's Goodness and Man's Badness
8. God's Truth and Man's Lies
9. Man Convicted
10. Man Pardoned.

APPENDIX.

Full Titles of Books cited, with Imprints
Miscellaneous Articles
Index

NOTE.

This Table of Contents was prepared before the first of the ten Divisions of the work was finished; which arrangement enabled the Author to discuss any topic, at any time, according to his mood, or as his reading suggested. Whenever he found one subject associated with another, he followed up the inpuiry, in the same general line, until it became exhausted. Thus, different sections may be said to have been prepared simultaneously; and thus, many later pages were actually written before earlier pages, in numerical order. While this method has facilitated the preparation of the work, he now perceives, on a continuous reading of the consecutive pages, that it would be an improvement to transpose some of the materials and cancel some repetitions. Had it not been for the exactions of professional engagements, the pressure of which has never been intermitted, he would have given the MSS. that careful revision which would have rendered this apology unnecessary ; and he would, also, have condensed the work within a narrower compass. The fault of redundency, however, is one of form rather than of substance ; and it will be noticed more by the close student than by the casual reader. The Author cares less for the criticisms of the former, whose extensive reading and study demand a more correct style, than he does for the needs of the latter, whose investigations have been so limited as to render the refined rules of composition of little consequence, when compared with the importance of the information sought to be imparted. To satisfy both classes, the Author must first become a man of leisure, untrammeled by business, which is a condition of things he has not yet enjoyed. Should he ever be enabled to give his undivided attention to such studies, he will, if his life and faculties are spared, endeavor to produce a revised edition of the work, better calculated to meet the tastes of all.

The Author calls attention to what he believes to be a fact, that there has been nothing heretofore published, on any subject whatever, and that nothing worthy of publication has been or ever will be written or conceived, which cannot be assigned a place, under one or another of the general divisions or subdivisions of this Table of Contents. The work professes to deal with a First Cause, with Second Causes and with All Effects ; and it, therefore, includes investigations of all subjects ; whether Physical or Metaphysical ; whether Mental, Moral, Political or Religious ; whether Practical, Theoretical, Empirical or Superstitious ; whether founded on Fact or obscured by Fiction ; whether Emotional or Positive ; and whether emanating from Saint, Sage or Savage. Any thinker who does not find his views stated in this work, can select headings under which they may be appropriately distributed. Whatever these views may be, the Author will claim that they cannot impair any link in the chain of argument.

The Author has clung closely to the number TEN, in his divisions and sub-divisions ; and some readers may think he superstitiously believes that there is peculiar power in that number. This possible suspicion induces him to say, that he did not observe how uniformly the tens were made to appear conspicuous, until the Table of Contents was nearly completed ; and he found it so easy to adhere to this order, throughout, that he preferred to enforce the uniformity, without exception. He simply retains this uniform number as an aid to the memory ; and not from any idea that it possesses cabalistic virtue or occult significance.

PREFACE.

The Author has been a Lawyer for more than 25 years, with an active practice in the City of New York. Early in life he was impressed with the importance of the inquiries which this work is designed to answer ; but it was not until after many years of investigation that he was brought to the conclusions which he now commits to the press.

His labors would have been materially lightened if he had found, in the study of Theology, those helps which his own profession has conveniently at hand for the student at Law.

The method and system with which the Law is taught should be observed in Theology. The Lawyer appeals to the well considered and published opinions of Judges and Jurists who have labored before him, and he requires citations of volumes and pages ; but the Theologian is less careful to satisfy this equally exacting requirement in his profession.

This publication is a contribution towards supplying this want in Theology ; and the Author would prefer to have it considered a compilation rather than an elementary work. If it contains anything original it is to be found more in the method and style of presenting the thoughts, than in the processes by which the supposed truths announced have been reached. His own peculiar views will weigh but little unless he furnishes his Readers with ready means to test his accuracy and soundness, by references to the published results claimed to have been reached by others, well known, who have preceded him, pro and con, on the same general subject ; and he can best do this by *literal* quotations.

The power possessed by inverted commas, while extensively understood in all professions, is seldom put forth in any but the Law. In a trial by Jury or in an argument before the Judges, the Lawyer is expected to give the exact language of witness or author. When he *reads*, he is expected to tell where his auditors may readily turn and read, too, if they like, to verify the correctness of his quotations. When he indulges in general statements of " the substance," (so called,) unaccompanied by references to the precise words used by witness or author, on critical points of inquiry, his argument is viewed with suspicion His aim should be always practical ; the best result of his efforts can only be reached by reason based on facts ; and both his facts and his reasons must be stated so clearly and so fairly, when he appeals to the former or borrows the latter, that judge or jury may, *passim*, see, at a glance, that he is seeking to show what is true and honest, and not what may be considered the concomitants of falsehood and dishonesty, viz :—perverted facts and unwarrantable deductions.

When an idea has been once well expressed, the Author will appropriate it, if he has occasion to use it, without first reducing it to his own form of expression, through an affectation of originality. When a fully developed and novel idea is found in a book, and is used by one who follows in the same line of investigation, he should give credit for it ; but where the subsequent writer has sought to " saturate" himself by " reading up," extensively, on a particular subject, it would, sometimes, be irksome to attempt to give credit. Having once gathered, from an extended field, ideas which have been already appropriated, by reason of their familiarity, as " common property," the Author is unwilling to surrender them simply because he cannot, readily, name the man or men who first gave them shape. It may well be doubted whether any Author, who is not unfolding a new discovery in Science, can properly lay claim to any thing, as original except his method of presentation ; and, whenever we find that method to possess remarkable merit or singular power, the Author will take care to quote verbatim and verify by particular references.

The publications, of more or less merit, in this department of literature, may be numbered certainly by hundreds ; probably by thousands ; possibly by tens of thousands. The length of a catalogue of such books would astonish those who have not given the subject, "at large," special attention. The Author has read a considerable number of these, in order to select such of them as he thought possessed real merit, as representatives of the peculiar and diverse schools brought under discussion. His selections may not be the best ; he may err in his attempts at discrimination, as to who are the most approved writers ; yet, when their number is considered, it will hardly be expected that he should not omit reference to very many whose views are worthy of mention. If he attempts to include more than a few, he will incur the risk of weakening his argument by prolixity. Where the authorities are "cumulative," the Lawyer is, generally, content to give the "leading case" which announced the "principle," and a few, perhaps only one, of the most recent adjudications adopting and affirming that principle.

While, as a general rule, he cites as authority adjudications, in actual cases, which he finds in the Reports ; and while it is hardly considered "professional" to cite Treatises on the Law, there are, nevertheless, some works, of the latter description, such as the Commentaries of Blackstone, Kent and Greenleaf, whose authors have been found so uniformly accurate, that, for convenience, they are often quoted as embodying the Law on some particular subjects, without reference to the decisions on which their announcements are based. In science and literature, generally, the man of letters is not, at least he ought not to be, ashamed to let it be known that he consults the Encyclopedias. Of all books of general information, they are the fairest and best. If such a work should be suspected of partiality in its statements of diverse views on controverted points of inquiry, it would soon be repudiated as worthless. The projectors of such works understand this ; and, for this reason, they are foremost among the careful and judicious in "book-making." The

Lawyer has his Digests and Law Dictionaries ; and, outside of the study of the Law, he has no readier help to the discovery of ascertained fact, in any and every department of science and learning, than that furnished by the Encyclopedias. They constitute the most accessible embodiments of thought. They are indispensable in the hurried work of the Editor, who is the most ubiquitous and versatile, and, take him at his best, one of the most erudite and profound of writers. The leading Metropolitan journals often contain editorial compositions equal in literary merit and in what is properly, although too often truculently, termed "learning," to any written productions, (except in rare instances,) of the most popular authors. A reputation in authorship is more easily obtained than most people imagine. We have seen different grades of men in the world of business, from the educated commercial celebrity, to the plodding mechanic, who displayed marked powers of concentration of thought, and who knew how to express their ideas in language not only clear and forcible, but in words so well chosen that we wonder how they acquired the art of "wielding the pen of a ready writer." The explanation may be found in their making the Encyclopedias their literary "sheet anchor." Although such works do not constitute the "ultimate appeals of reason" ; yet we have in them a convenience of reference which no other books furnish. We will quote oftenest from the English work of Chambers, not only because it appears to be good enough, but because we believe the American Edition, as published by J. B. Lippincott & Co., of Philadelphia, (1869,) is more widely distributed than any other in this country, by reason of its cheapness.

It was only a few years ago that the Newspapers ventured to give, as part of the current news of the day, a detail of scientific discoveries. They began with scanty reports of lectures and brief reviews of books ; and they have gradually enlarged the quantity of information, as the popular demand for it increased ; until, now, we have not only extended and verbatim but illustrated reports of lectures, and whole columns of extracts from new books, with running commentaries. The journal which has displayed the most sagacity in anticipating the popular thirst for knowledge, and which has given the public the best opportunities for deep draughts to satisfy this thirst, is the *New York Tribune.* It has outstripped the most pretentious of the Quarterly and Monthly Magazines ; and its readers outnumber theirs more than ten to one, at from ten to forty times less cost. It has issued and sold for five cents, "Extras," containing Lectures delivered by the most eminent authors and foremost thinkers—the contents of each issue being sufficient to make a two dollar volume. While the bound volume finds a thousand readers, the "Tribune Extra" reaches more than ten thousand. That paper sold over two hundred thousand copies of Tyndall's lectures delivered in New York, in the winter of 1872-3. Other papers have vied with it, but none of them will claim that they have equalled it, in the success of this peculiar enterprise. All will yield to it a superiority which it justly deserves. The village blacksmith as well as the Metropolitan divine clamors for knowledge ; and while the latter gets it from costly books, the former wants it more cheaply in his newspaper. Both must have it ; and the *Tribune* gives it to both. For these reasons, we shall, in our quotations, frequently supplement the Encyclopedias with the Newspapers, and especially with the *Tribune.*

This generation demands the rapid publication of new revelations in the realms of knowledge ; and this can be best done through the cheap instrumentality of a Daily Journal. The people, as a mass, are becoming more and more disinclined to wait or pay for a book ; and when the book comes, it must, sooner or later, be crowded into oblivion by something newer and better. The great reading public is coming to understand charlatanry in book-making ; and no author, whether he pretends to originality or only aspires to epitomising the thoughts of others, can hope to live long in the memory of astute investigators. The Author is so impressed with this progressive spirit of the age in which we live, that he flings this work on the ocean of thought, as an evanescent thing, which can give but a few impulses to the great tidal wave always rolling on, in time, towards a more and more complete knowledge of the Eternal.

When the Encyclopedias and the Newspapers fail to come up to the most recent developments of science and of thought ; or, when they appear to be insufficient in fullness or completeness ; the Author will, of course, consult any and every publication he thinks best calculated to aid in the solution of any difficulty which the exactions of the inquiries may demand. He will give preference to those which he supposes most accessible to the general reader ; and he will endeavor to include every distinctive school of thought ; so that none shall be ignored, from the era of the empirical to the days of the exact ; from the foreshadowings of the speculative to the dogmas of the positive ; from ancient stoicism to modern philosophy ; from the earliest unreasoning faith to the immediate tenets of enlightened Christianity.

When the Author contemplates the grave solemnity of the subject ; the consequent importance of the undertaking ; the undoubted difficulty of the task ; and the great mental powers of those under whose review every such publication, if entitled to any notice at all, must, finally, come,—he is constrained to pause and consider whether he has not been presumptuous and vain, in supposing his views worthy of being put in type. While he defers to the great thinkers who rank highly among Metaphysicians and men of Science, and while he looks up to the august personages who have contributed largely to the elucidation of Theology as a Systematic Study, he, nevertheless, believes that there is still a want which no one of them has yet sufficiently supplied ; and he makes the attempt not so much to supply it, adequately, himself, as to persuade others, more competent, to follow this effort by a work more satisfactory and complete.

INTRODUCTION.

Plan of the Argument.

Suppose a man is told that the road he is traveling terminates on a precipice, and that to follow it further will surely result in his destruction ; and suppose he believes it :—Will he not stop ?

If in his right mind, he will.

Suppose a man is told that if he does not live in accordance with certain religious teachings, he will suffer endless torment ; and suppose he believes this :—Will he not strive thus to live ?

If in his right mind, he will.

In both these cases his conduct will depend upon his Belief.

If he is not ready to believe the warning voice as to the precipice, he may verify or disprove it by cautious approaches, and by the evidences which his physical sense of sight may give.

But if he is not ready to believe that he will suffer endless torment, in case he does not live in a certain way, he cannot verify or disprove it by the evidence of his senses ; for it is something which comes after he is physically dead. He must, therefore, have faith that the person who gives the warning speaks by authority, and that the message is true.

To ask the Doubter to have this faith, we must present to his mind reasons which will prevent his reaching any *other* conclusion.

The alleged message is contained in a book called the Bible, which purports to emanate from a Supreme Being, a Great First Cause, called GOD. And, while it is part of our plan, ultimately, to show that these writings are what they profess to be, it is best, we think, to start out with the naked proposition that, with this book closed, we may certainly know that God exists.

In efforts to prove the existence of God without the Bible, we should seek to convince that God exists, from the "book of nature" alone. This done, we should start afresh, and seek to prove what we may know of God from the book of nature; and, up to this point, still continue to ignore the Bible. Next, we should prove the insufficiency of the book of nature to give us a complete knowledge of what God requires of man and what man should believe concerning God. Next, we should show, not only the possibility and probability that God has thus revealed himself to us, but that the Bible, alone, contains such a revelation. Each effort stands by itself; and so far as each is treated, it should not be prematurely connected with what is to follow.

We propose to adopt a line of argument precisely like that which we would mark out for ourselves if we were called upon to establish the proposition in a Court of Law. There, we would begin with a statement of fundamental principles; then, cite the rules of evidence we considered most applicable; next, bring forward the facts which we thought constituted the "best evidence"; and, finally, we would seek to deduce, therefrom, logical conclusions. Here, we will observe the same order; and we will endeavor to attain to the succinct perspicacity which the Judges prefer, rather than adopt the more profuse style of the Advocate, when before a Jury.

We will be careful to avoid any reasoning based on mere "assumption"; and will not anticipate any thing which may lay us open to the imputation of what is significantly termed "begging the question."

We propose to go even further than this, and omit, so far as we can, the use of words and terms which, although commonly employed, may imply more than the Doubter is willing to concede.

When treating any subject in a scientific or even in a methodical way, it is difficult to avoid a disputation as to the meaning or appropriateness of terms ; yet, "generalizations" are indispensable. (*Chambers' Ency.* tit. GENERALIZATION. Vol. 4. p. 671.) If we should always stop to consider criticisms upon their technical accuracy, instead of accepting them as they are ordinarily understood, we would often obscure what we aim to make clear. Whenever, therefore, for the want of something better, we feel constrained to use a generalization which has been criticised, we will, if it has an important bearing, qualify our use of it. But, whether we consider some term we use or some other to be most correct, we will claim, in every instance, that our " logical conclusions" will remain unimpaired.

The points in a conclusive argument may be likened to the links in a well-made chain. He who forges the chain makes sure that each link is sufficiently perfect in itself. And so, in the argument, each point must be sufficiently complete, in itself; and must be so complete, so well defined and so perfect, that the mind is not capable of arriving at any conclusion different from that which is stated in the isolated proposition claimed to be established. Point by point, the argument should be rendered incontrovertable.

You forge a chain. You put in as many different metals in the links as you choose. So long as you find them, collectively, to possess the requisite strength, no argument can convince you that any one of them is composed of a metal inadequate to the purpose intended. There is the chain, link by link ; each link fulfilling the purpose, with the others, of making a sufficiently perfect and strong chain. And if you are diverted, for a time, by any opposing argument, intended to convince you that, as a whole, it is defective, you have only to say :—There is the chain, stretched from this thing to that. It holds together ; it not only bears its own weight, but it serves to hold the two things together, like cause to effect. It cannot be denied that these links exist, individually ; and it cannot be denied that, when thus strung together, there exists an entire chain ; complete in its separate parts ; complete as a whole. While admitting that one broken or defective link spoils the chain, you have a right to claim that, until a broken or defective link is found, the chain is good. To condemn a chain, we must look to its individual links, *separately ;* and to overthrow an argument, we must show at least one *fundamental* point in it to be unsound. In such an effort, while dealing with one point, we should not advert to the others. We should dispose of one at a time.

We address ourselves, more particularly, to those who have either examined superficially, or who attach no importance to the inquiry ; and our aim is, in large measure, accomplished, if the indifferent are stimulated to make investigation.

While it would not be reasonable to ask a man to believe a thing simply because it was believed by another man, or by several men, in whose wisdom and judgment he had great confidence ; yet, if he knows that certain views are entertained by very many great minds, which, if true, make out that there is a " future state " in which, on " certain conditions," the " soul " of man, after his physical death, enjoys eternal happiness or suffers everlasting torment, he ought, at least, to solemnly pause and diligently inquire whether those who hold to these opinions are justified by sufficient reasons.

If you would turn back because of your belief in the warning message as to your near approach to a precipice ; or, if you would stop short of this and merely pause to investigate, because you thought the messenger worthy of attention, we would have you observe the same caution and imitate this prudence in respect to the other warning which, if true, is fraught with consequences much more momentous.

Names renowned in history, among whom, preëminently, stands that of Washington, who is revered by all enlightened nationalities ; statesmen, in the midst of whom, Webster, like a colossus, towers; eminent authors, embracing Blackstone in the law, with his remarkable clearness; Newton, in philosophy, with his keen penetration and wonderful discoveries of natural phenomena; Milton, whose bold and comprehensive imagination has given us an epic which will fill the hearts and minds of generations to come, with sublime thoughts and lofty aspirations; Bacon, who has long been regarded as the father of Inductive Philosophy, "whose literary and scientific works are every where irradiated by the powerful light of an intellect which towered over those of other men," (*Chambers' Ency.* tit. BACON, Vol. 1, p. 608;) Hugh Miller, who contributed his "Testimony of the Rocks," and other learned works, to the rising science of Geology; Napoleon I, the modern Cæsar and profound observer; all these, with multitudes of master minds, in all the varied walks of society and in every department of learning, have arrayed themselves on the side of Bible religion.

If any of these, while entertaining this belief, have failed to live consistently with it, this circumstance may shake your confidence in their consistency and diminish the force of any argument based on such a reference to them. Still, it should not fail to awaken within you a desire to ascertain whether they are right, in principle, although they may be wrong in practice.

None of these, however, serve as witnesses to prove any thing more than that what they affirm, on so grave a subject, is worthy of patient investigation and careful study. Turning a deaf ear to their solemn admonitions betokens a recklessness akin to that which we observe in a man who disregards the first instinct of his nature, which is said to be "self-preservation."

Our argument has five general divisions, designed to prove:—

1. The existence of God without a Bible;
2. What we may know of God without a Bible;

3. That to know God, sufficiently, a written revelation, like the Bible, is necessary;

4. That the Bible alone, contains a written revelation from God; and

5. That no man is excused from obedience to what is commanded in the Bible.

The first, second and third will not require any reference to the contents of the Bible. The fourth will require, in addition to external proofs, an examination of its contents so far only as to enable us to judge whether they are, generally, of such a character as to be worthy of God; and whether these writings bear upon their face evidences of genuineness and authenticity; and whether they are superior, in these respects, to all other writings claimed to be of Divine origin, such as the Koran;—thus applying the same rules we would observe if we sought to prove an "ancient document," such as a will, when all the witnesses were dead. (*Greenleaf on Evidence*, Vol. 1, §21.) The fifth may be discussed wholly on general principles, without opening the Bible.

When these writings are once established, and shown to be binding upon *all* mankind, whether savage or civilized, uneducated or learned we propose to dismiss the arguments which have brought us to these conclusions, and consider what the Bible itself teaches. This we propose to do in a series of five additional articles entitled:—

6. An easy Method of interpreting the Bible;

7. An Outline of what the Bible teaches;

8. A Dissertation on the Creeds, Confessions of Faith, and Religious Sects which are based on the Bible in whole or part;

9. A Reconciliation with Reason of seeming Mysteries of the Bible; and

10. An Appeal urging Acceptance of the Bible.

These ten divisions, if severally elaborated to the full ex-

tent to which they are respectively susceptible, would embrace all that is known in history ; all languages ; all religions ; all nature ; all the sciences ; all the arts ; all that man has ever ascertained or investigated ; all that man has ever written, spoken or conceived. There is no other subject so comprehensive or exhaustive. It penetrates the lowest depths, and soars aloft to the highest realms. It extends abroad amid the myriads of space, and scrutinizes atoms near at hand. It deals with the First Cause, and with all secondary causes and with all effects. It ascertains that a Divine Government rules the Universe of Mind and Matter ; seeks out its power ; sees on what and whom it acts ; expounds its laws of order and obedience, and gives the method and procedure of their operation and enforcement. It explains all good and evil in the world ; commends the one and condemns the other ; and it is The Great Theme of Themes which subordinates all things on the Earth to the broad declaration that :—
MAN'S CHIEF END IS TO GLORIFY GOD.

DIVISION I.

EXISTENCE OF GOD WITHOUT A BIBLE.

SUBDIVISION 1. FUNDAMENTAL PRINCIPLES.

Here is an orange. Do you see it? We will drop it upon the table. Do you hear it? Take it in your hand. Do you feel it? Put it to your nose. Do you smell it? And now put a piece of it in your mouth. Do you taste it?

To all these questions you will answer yes; and this necessarily implies that something, for example, this orange, does now exist. You will say "I know it exists"; and if asked how you know it, you will answer "I perceive it through the senses."

To a person of ordinary understanding this operation seems simple enough. Let the mental process, by which you are enabled to say you know it, be called Perception, Consciousness, Reflection, or by any other name, you are none the less certain that the orange exists as a material thing. And if we should be allowed to quietly accept the idea of its Existence as an actual fact, without having any one rise up to seriously deny it, we could say that here at least is one fundamental truth not disputed, viz.: Something material does now exist.

It so happens, however, that there are some philosophers of no mean pretensions who deny this. They belong to a school of thinkers called *Idealists*, who advocate "the system or theory that makes every thing to consist in ideas, and that denies the existence of material bodies." (See *Webster's Dictionary.*)

The first philosopher who proposed a scheme of absolute idealism was a Bishop of the Church of England. His name was GEORGE BERKELEY. He was born in 1684, and his career as an author began in 1707. In 1710 he produced a work entitled a *Treatise concerning the Principles of Hu-*

man Knowledge. There was at that time and there still exists another school known as Materialists, who substantially hold that there is nothing but Matter. (See *Webster's Dictionary.*) Berkeley's object in that Treatise is thus commented on in *Chambers' Encyclopedia* :—

> "Its object was to undermine the materialism of the age, by denying on *received principles of philosophy*, the reality of an external world. If there is no external world, he argued, the phenomena of sense can be explained only by supposing a Deity continually necessitating perception. Berkeley has since been laughed at by many who could not see how the premises laid, in the philosophy of the day, led to his system; by many he will always be laughed at as an idle dreamer; but, in point of fact, his system is a monument, at once, of marvelous subtlety of mind, and of the most pious devotion of the intellectual powers, to the cause of religion. The object was, as the full title of the book itself sets forth, to inquire into and remove the causes of scepticism, atheism and irreligion. It is only an illustration of the truth of the old saying, 'that extremes meet,' if, in following out this pious purpose, he prepared the way for a subtler form of scepticism, (in Hume's philosophy,) than the world had previously known." (*Chambers' Ency.*, tit. BERKELEY, Vol. II., p. 50.)

In the same article we are informed that in 1707 he obtained a fellowship in Trinity College, Dublin ; that in 1713 he was appointed Chaplain and Secretary of Legation under Lord Peterborough, whom he accompanied to Italy ; that in 1724 he became Dean of Derry, with an income of £1100 and resigned his fellowship ; that he soon afterwards devised the Bermudas College scheme for training pastors for the colonies, and missionaries to the American Indians ; that he exchanged his deanery and income for the exile which this scheme involved, and a salary reduced to £100 a year ; that Dean Swift who was his patron and friend tried but failed to induce him to give up the project ; that he married a daughter of the Speaker of the Irish House of Commons, and soon after set sail ; that, after six years, he returned to England heartbroken with failure, and harassed by creditors ; that he had barely returned, however, when, in 1734, he received the bishopric of Cloyne, as a mark of favor from the queen ; and that during all this time he wrote and published several philosophical works, pamphlets and letters, and one or two books on Tar-Water. We quote :—

> "In 1744, he gave the world his notions of the virtues of tar-water in a book entitled *Siris*. Tar-water appears to have been in his thoughts as in his system—which must have been saturated with it—from this time till his death.

His last work was *Farther Thoughts on Tar-Water*, published in 1752. The fact is, he was hypochondriacal for many years before his death. He died 14th January, 1753, at Oxford, whither he had gone to live with his son, who was studying at Christ Church. A genial companion, and affectionate and steady friend, he was loved by all his cotemporaries who enjoyed his society; a graceful writer, a subtle philosopher, and an active Churchman, his whole life was devoted to usefulness, and ennobled by the purity of his aspirations." (*Chambers' Ency.* tit. BERKELEY, Vol. II., p. 50.)

A school book thus alludes to him :—

"It is no wonder that the wisdom and learning of a man who could seriously adopt such a belief could not save him from being the dupe of quackery. He believed that tar-water was a sovereign cure for all diseases; and Dr. Holmes playfully remarks of him, that: 'he held two very odd opinions: that tar-water was every thing, and that the whole material universe was nothing.'" (*Hooker's Natural Philosophy*, p. 13.)

Although these remarks are captious and the conclusions too broad, and although ridicule is hardly admissible under any circumstances in a serious discussion of fundamental principles, it is well to know, as matter of fact, whether the founder of a peculiar and subversive school of philosophy had any noticeable idosyncracies, and how these are regarded by other philosophers. Lord Bacon founded that great system known as Inductive Philosophy; yet his taking bribes and his meanness did not overthrow that system. Any truth will stand notwithstanding he who first discovered it or gave it definite shape, afterwards became a dupe, a lunatic or a criminal. So that, whether Bishop Berkeley wisely or unwisely advocated tar-water as a panacea, his philosophy, if considered at all, must be judged on its merits alone.

"The following sentences show in what manner Berkeley opened up the question: 'That neither our thoughts, nor passions, nor ideas, formed by the imagination, exist without the mind, is what every body will allow; and it seems no less evident that the various sensations or ideas imprinted on the sense, however blended or combined together (i. e., whatever objects they compose,) cannot exist otherwise than in a mind perceiving them. I think an intuitive knowledge may be obtained of this by any one that shall attend to what is meant by the term *Exist* when applied to sensible things. The table I write on, I say exists—i. e., I see and feel it; and if I were out of my study, I should say it existed, meaning thereby that if I was in my study I might perceive it, or that some other spirit actually does perceive it. There was an odour—i. e., it was smelled; there was a sound—that is to say, it was heard; a colour or figure, and it was perceived by sight or touch. This is all I can understand by these and the like expressions. For what is said as to the absolute existence of unthinking things, without any relation to their being perceived, that seems perfectly unintelligible. Their *esse* [existence] is *percepi* [perfectly known,] nor is it possible that they should have any existence out of the minds or thinking things which perceive them.'" (*Chambers' Ency.* tit. PERCEPTION. Vol. VII., p. 390.)

While Berkeley was engaged in his earliest labors as an author, and after he had written, in 1710, his *Treatise concerning the Principles of Human Knowledge*, to which we have already referred, **David Hume**, the philosopher and historian, was born, at Edinburgh, in 1711.

"His [Hume's] father designed law as his profession, and he submitted to the initial steps of the proper practical training, but it was not a pursuit to his liking. Deserting it, he experimented in a mercantile house in Bristol, but commerce was not more congenial to him than jurisprudence, and he gave it a very short trial. He now became a musty student, devoting himself to books with no settled practical object before him. He has recorded his sufferings at this time from despondency and depression of spirits, caused, apparently, by the effects of monotonous study on the stomach. At 23 years of age, he went to France, and lived some time in La Fleche, where he describes himself as wandering about in solitude, and dreaming the dream of his philosophy. In 1739 he published the first and second book of his *Treatise on Human Nature*—the germ of his philosophy, and still perhaps the best exposition of it, since it has there a freshness and decision approaching to paradox, which he modified in his late works. Although the dawn of a new era in philosophy, this book was little noticed. It was a work of demolition. By separating the impressions or ideas created on the thinking mind by an external world from the absolute existence of that world itself, he showed that almost every thing concerning the latter was taken for granted, and he demanded proof of its existence of a kind not yet afforded. It was thus that he set a whole army of philosophers at work, either to refute what he had said, or seriously to fill up the blanks which he discovered, and hence he originated both the Scotch and the German school of metaphysicians. In 1741 and 1742, he published two small volumes, called *Essays Moral and Political;* they were marked by learning and thought, and elegantly written, but are not among the more remarkable of his works. He felt keenly at this time the want of some fixed lucrative pursuit, and his longing for independence was the cause of a sad interruption to his studious and philosophical pursuits. He was induced to become the companion or guardian of an insane nobleman, and had to mix with the jealousies and mercenary objects of those who naturally gather round such a centre. In 1747, he obtained a rather more congenial appointment, as secretary to General St. Clair, whom he accompanied in the expedition to the coast of France and the attack on Port L'Orient, the depot of the French East India Company; this affair had no important results, but it gave Hume a notion of actual warfare. Next year he accompanied the general in a diplomatic mission to France, and, as he travelled, he took notes of his impressions of Holland, Germany and Italy, which are published in his *Life and Correspondence.* In 1751, he published his *Inquiry into the Principles of Morals*, a work of great originality, and one of the clearest expositions of the leading principles of what is termed the utilitarian system. At the same time, he intended to publish his *Dialogues, Concerning Natural Religion,* but his friends, alarmed by the sceptical spirit pervading them, prevailed on him to lay them aside, and they were not made public until after his death. In his 35th year, he had unsuccessfully competed for the chair of Moral Philosophy in Edinburgh; and, at this period, we find him unsuccessful in an attempt to obtain the chair of Logic in Glasgow. Next year, in 1752, appeared his *Political Discourses.* Here, again, he made an era, in literature; for, in this little work, he announced those principles of political economy, the doctrine of free trade, which it fell to his friend, Adam Smith, more fully and comprehensively to develop. He was appointed, at this time, Keeper of the Advocates' Library, with a small salary, which he devoted to a charitable purpose. It was here that, surrounded with books, he formed the design of writing the *History of England.* In 1754, he issued a quarto volume of the *History of the Stuarts, containing the Reigns of James I. and Charles I.*, and presently, completed this portion of the work, in a second volume, bringing it down to the Revolution. He then went, backwards, through the House of Tudor, and completed the work from the Roman period, downwards, in 1762. While so employed, he published *Four Dissertations ;* the *Natural History of Religion ; Of the Passions ; Of Tragedy ; Of the Standard of Taste,* (1757.) Two other dissertations, intended to accompany these, were cancelled by him, after they were printed ;—they are *On Suicide* and *The Immortality of the Soul,* and were, subsequently, printed in his works * * * * In 1763 he went to France, as secretary to Lord Hertford's embassy. Here he was in his element ; and found fame, at last. He became familiar with the brilliant wits and savants of the Parisian circle—with Turgot, D'Alembert, Helvetius, Holbach, Diderot, Buffon, Malesherbes, Crebillon, and the rest ; as well as with the no less distinguished female eminences, De Boufflers, Page de Baccope, Geofrin Du Deffand, and L'Espinasse. His sojourn in Paris was unfortunate, in bringing him into intimacy with the restless, vain, and self-tormenting Rousseau, who after experiencing much substantial kindness from Hume, got suspicious, and forced him into a memorable quarrel. After his return home, in 1776, he accepted the responsible office of Under-Secretary of State for the Home Department. In his own *Life* he says :—' I returned to Edinburgh, in 1769, very opulent, (for I possessed a revenue of £1000 a year.) healthy, and, though somewhat stricken in years, with the prospect of enjoying long my ease, and of seeing the increase of my reputation.' Early in 1774, he was attacked by an internal disease, for which he, in vain, sought a remedy in the Bath waters. He died, at Edinburgh, on the 25th of August, 1776." (*Chambers' Ency.* tit. DAVID HUME. Vol. V., p. 456.)

We give these extended notices of Berkeley and Hume, because we ought to know something of the lives and characters of the founders of the subversive schools of Philosophy which deny the actual existence of any material thing. We ought also to know who and what kind of men oppose these schools ; and we shall refer to these presently.

"The doctrine put forth by Bishop Berkeley, as opposed to the common opinion, was, that ' the whole universe subsists, and can only subsist, within such a sentient, invisible, and conscious thing as the mind is known to be. In this way, each human mind must have with it a separate universe of its own, but so exactly the same in all minds, that every object of sense, and every movement of every object that is to be found in the universe of one mind is to be found also in the universe that is with the other mind ; the general effect of all which conditions is much the same as that which would be produced if several people were all dreaming, exactly at the same time, exactly the same dream.' ' The result of Berkeley's inquiry,' says Dr. Reid, ' was a serious conviction that there is no such thing as a material world—nothing in nature but spirits and ideas ; and that the belief of material substances, and of abstract ideas, are the chief causes of all our errors in philosophy, and of all infidelity and heresy in religion. * * * * * ' Hume proceeds upon the same principles, but carries them to their full length ; and as the bishop undid the whole material world, this author, [Hume,] upon the same grounds, undoes the world of spirits, and leaves nothing in nature but ideas and impressions, without any subject on which they may be impresed.' *Inquiry into the Human Mind* [by Dr. Reid] c. 1, s. 5." (*Chambers' Ency.* tit. COMMON SENSE, Vol III., p. 158.)

Here, we behold two celebrated authors of the last century who take to the same train of thought; and who following it to its logical conclusion, find themselves, as paradoxical as it may seem, diametrically opposed to each other.

This gave rise to a new school of Philosophy founded by THOMAS REID, called *Common Sense.*

" A dead lock in philosophy was the result of these doctrines of Berkeley and Hume; and the solution offered by Reid consisted in setting up Common Sense as an arbiter from which there could be no appeal; that is to say, the universally admitted impressions of mankind were to be taken as corresponding to the fact of things without any further scrutiny. Reid's philosophy of Common Sense has thus found a place in the thinking world; and it is only the same view otherwise expressed, where it is declared by other philosophers that the deliverance of consciousness must be presumed true. Sir William Hamilton in the most elaborate vindication of the Common Sense philosophy that has ever been produced (see edition of Reid's works,) dwells largely upon this last view of the subject. The following extract is a specimen of his mode of reasoning: ' When, for example, consciousness assures us that, in perception, we are immediately cognizant of an external and extended *non-ego* [not-self]; or that, in remembrance, through the imagination, of which we are immediately cognizant, we obtain a mediate knowledge of a real past: how shall we repel the doubt—in the former case, that what is as the extended reality itself is not merely a representation of matter by mind; in the latter, that what is given as a mediate knowledge of the past, is not a mere present phantasm, containing an illusive reference to a real past? We can do this only in one way. The legitimacy of such gratuitous doubt necessarily supposes that the deliverance of consciousness *is not to be presumed true.* If, therefore, it can be shewn, on the one hand, that the deliverances of consciousness must, philosophically, be accepted *until* their certain or probable falsehood has been positively evinced; and if, on the other hand, it cannot be shewn that any attempt to discredit the veracity of consciousness has ever yet succeeded; it follows that, as philosophy now stands, the testimony of consciousness must be viewed as high above suspicion, and its declarations entitled to demand prompt and unconditional assent * * * * * ' In the first place, it cannot but be acknowledged that the veracity of consciousness must at least, in the first instance, be conceded. Nature is not gratuitously to be assumed to work, not only in vain, but in counteraction of herself * * * * * ' But, in the second place, though the veracity of the primary convictions of consciousness must, in the outset, be admitted, it still remains competent to lead a proof that they are undeserving of credit. But how is this to be done? As the ultimate grounds of knowledge, these convictions cannot be redargued [refuted] from any higher knowledge; and, as original beliefs, they are paramount in certainty to every derivative assurance. * * * * ' It will argue nothing against the trustworthiness of consciousness, that all or any of its deliverances are inexplicable—are incomprehensible. To make the comprehensibility of a datum of consciousness the criterion of its truth, would be indeed the climax of absurdity.' " (See Hamilton's edition of Reid's works, p. 745, for these extracts, which are given in *Chambers' Ency.*, tit. COMMON SENSE. Vol. III., p. 158.)

The views of Sir WM. HAMILTON are given more at length in the article entitled PERCEPTION.

" Dr. Reid reclaimed against Berkeley and Hume, by appealing to Common Sense, or Unreasoning Instinct, as a sufficient foundation for our belief in the existence of a world apart from our own minds. Sir William Hamilton has expounded the same view with greater clearness and precision. He considers that our consciousness tells us, at once, that in the act of perceiving there is both a *perceiving subject*—self, or the mind—and an *external reality*, in relation with sense, as the *object perceived.* 'Of the existence of both these things,' he says, 'I am convinced; because I am conscious of knowing each of them, not mediately in something else, *as represented*, but immediately in itself, as existing. Of their mutual dependence I am no less convinced; because each is apprehended equally and at once, in the same indivisible energy, the one not preceding or determining, the other not following or determined; and because each is apprehended out of, and in direct contrast to the other.' * * * * * Those who would endeavor to show that our notion of the outer world is a complex fact, and an acquisition, and not a simple apprehension of the uneducated mind, explain themselves to the following effect. It is in the exercise of *force* that we have to look for the peculiar feeling of the externality of sensible things, or the distinction that we make between what impresses from without, and impressions not recognized as outward. Any impression that rouses a stroke of energy within us, and that varies exactly and constantly as that energy varies, we call an outward impression. Dr. Johnson refuted Berkeley, as he thought, by kicking a stone. But in fact it was his own action with its consequences, and not the optical impression of a stone, in the eye, that satisfied him as to the existence of some thing outward. The sum-total of all the occasions for putting forth active energy, or for conceiving this as possible to be put forth, is our external world." (*Chambers' Ency.* tit. PERCEPTION. Vol. VII., p. 391.)

Although the conclusiveness of this reasoning of Reid and Hamilton is disputed by some, we ought, perhaps, to accept it because it appears to be the most rational philosophy extant; and because we cannot find any other better calculated to lead us to clear conclusions. Nevertheless, it is not essential that we should fully adopt this or any other particular philosophy, as we shall presently see.

Thomas Reid, followed by Sir William Hamilton, having, as it is supposed, resolved the "dead lock" brought about by the philosophies of Berkeley and Hume, the two former deserve further notice.

"THOMAS REID was born on the 26th of April, 1710, at Strachar, a country parish in Kincardineshire, [Scotland,] where his father was minister. His mother belonged to the well known family of the Gregories. Reid began his education at the parish-school of Kincardine, and at the age of 12 he became a student of Marischal College in Aberdeen. His master in philosophy was Dr. G. Trumbull, one of the earliest representatives of the properly Scottish school. He took his degree of M. A. in 1726, [aged 16,] and continued to reside in Aberdeen as college librarian, his chief studies being Mathematics and the philosophy of Newton. In 1736, he left Aberdeen, and went, in company with a friend to England, where he was introduced to the most distinguished men in Oxford, Cambridge, and London. In the following year, he was presented by the senatus of King's College to the parish-church of New Machar in Aberdeenshire. The parishioners were bitterly opposed to his appointment; but his conduct and manner gradually won them over. It is said that, from distrust of his powers, instead of composing for the pulpit himself, he preached the sermons of the English divines, Tillotson and Evans. In 1740, he was married to a cousin of his own, who greatly aided him in the work of his parish. In 1739, Hume's *Treatise on Human Nature* appeared; the perusal of which gave the impulse that determined his future philosophical career. He had fully adopted the idealism of Berkeley, but was now revolted by the conclusions drawn from it by Hume; and, in consequence, was led to seek a new foundation for the common notions as to a material world." (*Chambers' Ency.*, tit. THOMAS REID, Vol. III., p. 172.)

In the same article, we are told that Reid wrote several other works and was promoted in professorships; that "in 1763, he was chosen to succeed Adam Smith as Professor of Moral Philosophy in the University of Glasgow;" and that he died Oct. 7th, 1796, aged 86 years.

In the article on Hamilton, we extract these passages:—

"Sir WILLIAM HAMILTON, of Preston, Bart., the most learned and scientific philosopher of the Scottish school, was born March 8th, 1788, at Glasgow, where his father, Dr. William Hamilton, and his grandfather, Dr. Thomas Hamilton, held in succession the chairs of Anatomy and Botany. * * * * * After gaining high distinction, especially in the philosophical classes, at Glasgow, he went, in 1809, to Balliol College, Oxford, as a Snell exhibitioner, and there, notwithstanding the unusually high standard of scholarship at the time, the position which he took never had, nor has been surpassed. * * * * [He held several professorships and wrote several works, which are mentioned; among others an edition of Reid's works with notes and supplementary dissertations.] It is perhaps impossible to adduce any writings which have recived the same amount of editorial care [as this edition of Reid.] The general aim of Hamilton's whole philosophy is, in fact, but the special aim of this edition of Reid. His conviction was that the philosophy of Common Sense represents the highest reaches of human speculation; and he sought, accordingly, in his annotations of Reid's writings, as in his independent works, to point out the relation of the Scottish philosophy to the systems of other countries, as well as to translate it into a more scientific expression, that he might bring into clearer view at once its true character and the real basis on which it rests. * * * * * He died May 6th, 1856." (*Chambers' Ency.* tit. Sir WILLIAM HAMILTON. Vol. V., p. 215.)

We shall speak of this great thinker, (Hamilton,) again, farther on, when we shall have occasion to differ with him on another branch of the subject.

Let us now turn to other schools of philosophy, and we will find that none of them have shaken the foundations laid by Reid.

Reid was a cotemporary of IMMANUEL KANT, who was born in Königsberg, Prussia, April 22nd, 1724, and died Feb. 12th, 1804. Kant is said to have been "one of the greatest and most influential metaphysicians of all time." (*Chambers' Ency.* tit. KANT. Vol. V., p. 771.)

> "The central point of his [Kant's] system is found in the proposition that before any thing can be determined concerning the *objects* of cognition, the *faculty* of cognition itself, and the *sources of knowledge* lying therein, must be subjected to a critical examination. Locke's physchology, indeed, at an early period in European speculation, had shewn a similar tendency; but, before Kant, no thinker had definitely grasped the conception of a critical philosophy, and Kant himself was led to it, not so much by Locke, as by Hume's acute scepticism in regard to the objective validity of our ideas, especially of the very important idea of casuality. The Kantian criticism had a two-fold aim: 1st. to separate the necessary and universal, in cognition, from the merely empirical (i. e., from the knowledge we derive through the senses); 2nd. to determine the limits of cognition. The efforts of Kant go to show that universal forms existent, *a priori*, ['reasoning or argument *a priori* deduces consequences from definitions formed, or principles assumed, or infers effects from causes previously known.' See *Webster's Dictionary*.] in the human mind, can afford knowledge only under the condition that the objects which they cognize are presented by EXPERIENCE; while, for the determining of what lies beyond the limits of Experience, they are merely empty forms, by which something, indeed, is *thought*, but nothing *known*. Even within the limits of Experience itself, we are cognizant, according to Kant, through the forms of the Sense and of the Understanding, not of things as they are of themselves, but only as they appear. * * * * * The result, according to Kant, of the critical examination of all claims to a knowledge transcending Experience in the re~~quires~~gions of rational or speculative Psychology, Cosmology and Theology, is the necessity for abandoning the hope of attaining such. The idea (native to the Reason) of the Unconditioned is allowed to possess a regulative, not a constitutive value; that is to say, it is a principle necessary for the extension of our inquiries beyond the fixed limits of experience, without, however, yielding us an extended knowledge. So far, the philosophy of Kant is purely negative and destructive. Hamilton, Mansel, and others have—in regard to the limits of the knowable—merely reiterated the arguments of the great German, while in regard to the points in which they do differ from him, as, for example, the *nature* of our knowledge, it is a matter of very great doubt if they are as logical and consistent as their predecessor." (*Chambers' Ency.*, tit., KANT., Vol. 5, p. 772.)

Kant exerted considerable influence in the development of "speculation," in what is called *German Philosophy*.

> "When we speak of the philosophy of Germany, we do not necessarily imply that it differs from the philosophy of any other country in respect of the problems it seeks to solve, any more than when we compare the German Chemistry with that of France or England. To characterise German philosophy, means nothing more than to point out the peculiar path that German thinkers have followed, and the degree of success that has attended their investigations, in seeking to answer those speculative questions which are understood to form the domain of philosophy, and which concern all men, if they concern any. Understood in this sense, German philosophy claims a high place—according to many, the highest. At least, for almost a century, now, a more general interest has been taken in the cultivation of philosophy in Germany than elsewhere, and abstruse and deep speculation has been chiefly represented by German thinkers." (*Chambers' Ency.* tit. GERMAN PHILOSOPHY. Vol. IV., p. 712.)

We will give other extracts from that article, at considerable length, in order that a glimpse may be had of the entanglements into which their reasonings brought them.

"As regards the scientific characteristics of German philosophy, it may be remarked that the systems put forth by Bacon in England, Descartes in France, and Spinosa in Holland, had but little influence in Germany at the time of their appearance. It was Locke that first awakened any considerable attention. The empiricism of this philosopher, who grounds all knowledge on Experience, and makes Psychology the regulator of Metaphysic, called forth the opposition of Leibnitz, the first German that made an epoch in the history of modern philosophy, and who, from the varied impulses he communicated, must be looked upon as the creator of the philosophic spirit in Germany. At the same time the fundamental doctrines of Leibnitz's system—that of monads, of a pre-established harmony, and of innate ideas—were rather general hypotheses than regularly established propositions. To remedy this, Wolf endeavored to construct a system of philosophy complete in all its parts, as required by the forms of logic; in doing which, however, he set aside precisely those doctrines that formed the characteristics of Leibnitz's philosophy. The great influence exercised by Wolf is shewn by the wide circulation of his writings, and the multitude of his disciples and adherents. Wolf himself, however, outlived his fame, and the original philosophic mind in Germany went to sleep for a period, during which a sort of Eclecticism, without any fundamental principle—the so called philosophy of 'Common Sense' prevalent in England and France in the 18th century—became generally spread. This period, however, was not without great intellectual excitement of other kinds. Poetry, reform in education, politics, and religious enlightenment, keenly occupied men's minds; old customs and associations, both in family and political life, were shaken; and preparation was silently going on for a great and radical revolution. * * * * * Kant, with whom the next period of German philosophy begins, thus found an age ready to receive impressions; and although * * * [his work entitled *Critique of Pure Reason*] was at first in danger of being overlooked, when a hearing was once obtained, that and his other critical works, which, after long preparation, appeared in rapid succession, communicated a profound impulse to the scientific world. The exclusion of every thing dictated by caprice or sentiment, the maintenance of the independence of speculative inquiry, the reference of all theoretical speculation to the field of Experience accessible to it, and the elevation of the moral element to the highest and ultimate object of all human endeavor, form the leading traits of his philosophy, which he recommended to consideration, more from its importance to man and society than to philosophers. He also entertained the hope that, through the critical inquiry into the nature of the human mind, it might be possible to reconcile empiricism and rationalism, sensualism and spiritualism, and other philosophical opposites, and discover *a series of comprehensive principles to which all philosophical disputes might be referred in the last resort.* This hope was disappointed; among other causes, because Kant sought to ground the old metaphysic of the schools on a physchology which itself rested on the basis of that metaphysic. Besides, there was wanting in the hey-dey of Kantism any satisfactory point of unity for the several parts of philosophy. K. L. Reinhold was the first to point out this defect; and scepticism, as in C. Schulze's *Ænesidemus*, and dogmatism in the writings of Eberhard and others, carried on a war with the 'critical' philosophy, but not, it must be confessed, with any great success. It was Fichte who found, or thought he had found, in the fact of Consciousness, that absolute point of unity which Kant's 'Critique' had always pointed to. Fichte, following out the path on which Kant had entered, changed the half-idealism of Kant into a complete Idealism, by declaring the Ego to be, not only the bearer and source of knowledge, but the only reality, the world being merely the ideas and active manifestations of the Ego. In the ego, *being and knowing were identical;* it was at once existence and knowledge; and nature appeared only as the reflex of its absolute activity. * * * * * With this idealism began a kind of revolutionary excitement in the philosophising minds of Germans which contrasted strongly with the calm and sober spirit of Kant. System followed system; philosophical books appeared in shoals; and for a quarter of a century and more the interest was shared by the public in general. But the meteors that appeared in the philosophical sky of Germany vanished for the most part as suddenly as they had blazed forth. Schelling was the first that attained a general influence. F. H. Jacobi had previously recalled attention to Spinosa, and Schelling, influenced by the speculations of Spinosa, converted the idealism of Fichte into what is called 'The Philosophy of Identity.' This system set out originally with the assertion, that as Fichte educes nature out of the ego, so, by an inverse process, the ego may be educed out of nature; but that both these forms of philosophising have their ground in the *absolute* as the *identity* of all opposites—of the real and the ideal, of subject and object, of mind and matter. In carrying out this assertion Schelling fixed upon intellectual Intuition as the kind of cognition alone corresponding to the absolute, or rather as identical with and representing the absolute. The organ of this intuition was called Reason, and, as such was opposed to the reflection of the Understanding, which was held to be quite incapable of taking cognition of the absolute. The relation of the phenomenal world to the absolute was held to consist in this, that the absolute represents itself in the multiplicity of Appearances, steps out of the state of 'indifference' into that of 'difference,' manifests itself in 'difference,' &c. Taking special cases, particularly in natural philosophy, Schelling endeavored to demonstrate the existence of this identity in the midst of non-identity, and of non-identity in the midst of identity. In this attempt, however, neither Schelling nor his disciples effected much. For in undervaluing and neglecting Experience and Reflection, a door was opened to a fanciful mode of speculation, which, in most cases, had little more in common with science than the name; so that in the departments of poetry, religion, and social life, the Schelling philosophy often degenerated into a blind groping, leading to the strangest aberrations of Romanticism, Mysticism, and tendency to Catholicism. * * * * * The philosophy of Hegel took the same general direction as that of Fichte and Schelling. Hegel attempted to develop, in regular organization, the contents of the intellectual intuition (in plain words, the cognitions and ideas of the mind) by the Dialectic or logical method. Though he broke loose from the prevalent fashion of indulging in an unbridled play of fanciful combinations, he did not content himself with the rules of logic recognized for thousands of years, but sought an expression for speculative thought in a dialectic of his own. The essence of this transcendental logic consisted in the analysis of all the established general conceptions; and the process or method consists in making each conception of itself generate its opposite, and, combining with this opposite, thus become enriched and enabled to advance to still higher stages. This method Hegel, with enduring perseverance, endeavored to carry out through the whole field of philosophy; and divided his system into the three provinces of logic, philosophy of nature and philosophy of mind. * * * * * While the systems above considered form pretty much a continuous line of progress that of J. F. Herbart, on the contrary, arose in opposition to the idealism of Fichte, and took a direction in complete antagonism to the dominant secular philosophy; and when we have named Herbart, along with Schelling and Hegel, we have named the only men that, since the era of Kant and Fichte, can lay claim to extended and general influence. For the well-nigh innumerable productions of other thinkers in this department, though often of individual merit, are only of secondary importance for the development of philosophy as a whole. None of them opened up any new leading path; they are occupied chiefly in defending or remodelling older systems, and applying them to particular departments of science, or in controversy with the dominant philosophy of the day. To this category belong the Kantian systems of Krug and others; the physical speculations of Steffens,

> Oken, Schubert, &c.; the various attempts to lead back philosophy to empirical psychology; the peculiar speculative attempts of Schleiermacher, J. J. Wagner, Fichte the younger, A. Trendlenburg, &c.; the different tendencies within the Hegelian school; and lastly, the position which Schelling latterly took up with regard to his own earlier doctrines, and to the development given to them by others. * * * * The rapid succession of sytems one after another, and the extravagances into which some of them ran, have, it is true, produced a lull in the interest taken in speculation; and to the former enthusiasm there has succeeded a sceptical aversion to all speculative inquiry. Still the influence that philosophy has had in elevating and strengthening the scientific mind of Germany, has been powerful and beneficial; and there are few departments of research in which the fruits of the philosophic spirit may not be seen in a deeper and more thorough mode of treatment." (*Chambers' Ency.* tit. GERMAN PHILOSOPHY. Vol. IV., p. 712.)

We need not follow the history of these speculations any farther. Those who wish to know more about them have only to select the name of any philosopher or of any philosophic term mentioned in the extracts we have quoted, and he will find, in the same work, (*Chambers' Encyclopedia,*) some account, more or less full, probably sufficiently full, concerning each.

DR. JAMES MCCOSH, to whose works we shall have frequent occasion to refer for reasons hereafter more fully stated, opposes all these schools, including their more recent followers and apologists, in a series of Lectures delivered in New York, early in 1871, on "Natural Theology and Apologetics." These have been published by Robert Carter & Brothers, (N. Y.), under the title of *Christianity and Positivism.* They contain many of the leading thoughts brought out in his earlier works, and the book is so compact and yet so comprehensive, that it ought to be read by every inquirer. The Fourth Lecture of his series of ten, is the one which deals more immediately with fundamental principles. It is entitled: "Proof of the Existence of Mind and of its Possessing the Capacity of Knowledge;" and it includes the "Doctrines of Nescience and Relativity." He says in the introductory paragraph:

> "Some of the discussions on which I am [now] to enter may seem a little too recondite; but all of them bear upon the prevailing errors of the day. I profess to keep a sharp look-out on the current of opinion all over the world, especially among young men. I am ever asking the watchman, 'What of the night?' and, in these Lectures, I take up the topics of the day." (p. 97.)

And he adds :

> "But it would be better not to discuss them at all than not discuss them thoroughly."

He is right in this declaration. In dealing with Fundamental Principles, on a subject of such vital importance, involving, as it does, the existence of a First Cause, if there be one, no elaboration of argument, which is not allowed to run into prolixity, should be considered irrational nor in bad taste. Farther on he continues :

> "Those whom I am opposing constitute a school with a diversity of teachers. (p. 98.) . . . . They all agree that of the nature and reality of things we know nothing, and can know nothing. All that we know is represented [by them] as *Relative ;* that is, we can know any one thing merely in relation to some other one thing, itself unknown. (p. 99.) . . . . . And so the question is started, What proof have we of the existence of mind ?" (p. 100.)

His answer to this, is followed by another inquiry, "What does the mind reveal to us ?" (p. 110.) His answer to these questions, (pp. 100 to 116), ought to be read entire ; but we must content ourselves with extracts from the concluding part of the Lecture. He says :

> "The whole school which I am opposing are defenders of the *Doctrine of Nescience.* It is called Nescience, in so far as it holds that man knows nothing, and can know nothing of the nature of things ; and Nihilism, inasmuch as it is averred that there can be nothing known. It is acknowledged that we are cognizant of appearances ; but then we do not and never can know whether these correspond to realities. This doctrine is commonly attributed to M. Comte ; but the true author of it is my countryman, David Hume. Hume is commonly called the sceptic, and he did not repudiate the name ; but the epithet scarcely characterizes him. He did not profess to deny the existence of God, or any thing else. He was evidently painfully affected, when the French Encyclopedists claimed him as an atheist. When the pert Mrs. Mallet came to him, and said : 'We deists ought to know one another,' he replied sternly (so differently from his usual good-nature) : 'Who told you that I was a deist ?' His professed aim was to show that man can never know any thing of the nature of things,—can never reach philosophic truth, certainly never theological truth. Huxley very properly sets aside Comte as the founder of this school of philosophy. 'So far as I am concerned, the most reverend prelate might dialectically hew M. Comte in pieces as a modern Agag, and I would not attempt to stay his hand. In so far as my study of what specially characterizes the Positive Philosophy has led me, I find therein little or nothing of any scientific value, and a great deal which is thoroughly antagonistic to the very essence of science as any thing in Ultramontane Catholocism.' The secret truth is, that the British followers of Comte

do not like him: because, feeling that he himself and mankind generally need to have a faith and a worship, he busied himself, in his later days, in constructing a religion of his own, which is certainly sufficiently ludicrous, but is after all a reproach on those who have no religion. Mr. Huxley claims to install Hume as the founder and head of the philosophy which he adopts, and which I am inclined to call Humism. Hume says: 'All the perceptions of the human mind resolve themselves into two distinct kinds of impressions and ideas.' He begins with impressions and ideas,—momentary impressions and ideas,—and not with things, and he declares, very properly, that out of these he can draw no realities. I meet this by showing that the mind commences, not with mere impressions and ideas, but with the knowledge of things; and on this primary knowledge it builds other and higher. And if I am asked for the proof, I answer that I have the same evidence of it as I have of the existence of impressions and ideas. I never do know an impression, except as an impression of self, the thing impressed; and, in doing so, I know both the impression and the thing impressed. I am never conscious of an idea except as an idea entertained by me. The two ever go together; and if I allow the existence of the one, I must allow the existence of the other: the one is as certain as the other; the one has the same self-evidence as the other. He who builds on any other foundation is building, not on the rock, not even on the sand, but on a surface of waters, or in the fleeting clouds. He who adopts the fundamental principle, that the mind does not start with the knowledge of things, must take all the rest. He must go through with it, even though it should carry and leave him where it left Hume; that is, in inextricable thickets and sinking swamps, in which he must wander on for ever, without coming to a termination: taking now this road, and now that road, to find them all 'passages which lead to nothing;' beginning nowhere, and ending nowhere, crossing and recrossing, as the children of Israel did in their wanderings, but with no Canaan remaining for him as a place of rest." (pp. 116, 117, 118.)

He then proceeds to speak of the "*Doctrine of Relativity:*"

"Closely allied to this doctrine of Nescience, springing out of it or leading to it, is that of the Relativity of Knowledge; that is, that the mind does not perceive things, but the relations of things, of things utterly unknown. Grote thinks that this was the doctrine of Protagoras, the old Greek sophist, when he maintained that 'man is the measure of all things.' Now, I do not reject this doctrine because it was held by the sophists: I reject it because it is sophistic in the expression and defence of it. I reject it as so far untrue. I am not bound to accept it because it has been held by men whom I profoundly revere: such as Sir William Hamilton, of Edinburgh; Dr. Ulrici, of Halle; and Dr. Mansel, of Oxford. On Hamilton's publishing the doctrine in his 'Discussions on Philosophy,' I examined it in the Appendix to a new edition of my work on the 'Divine Government;' and Hamilton meant to reply, but was prevented by infirmities terminating in his death. I labored to show that it was not agreeable to consciousness, and that it would certainly lead to fatal consequences. I was one of the first to protest, which I did in an article in the 'North British Review' (Feb. 1859), against Dr. Mansel's application of the doctrine, in his famous Bampton Lectures on the 'Limits of Religious Thought, to the defence of Religion, Natural and Revealed. Dr. Mansel thought to employ it to undermine Rationalism; but, in doing so, he undermined as well the ground on which religion stands—some one describes him as going out with a scythe to cut off the legs of others, and succeeding in cutting off his own legs. Mr. Mill, as we might expect, has accepted the doctrine, only complaining that Hamilton does not carry it out consistently and consecutively. But people did not see the consequences till Herbert Spencer laid his whole system upon it as upon a bottomless abyss. It is a principle adopted by the whole school, and employed by them to undermine all higher truth, philosophic and theological. We have seen that Tyndall, when sore pressed with a difficulty about life and mind coming out of the incandescent star dust, seeks to extricate himself by appealing to 'the law of relativity, which plays so important a part in modern philosophy.'

"The doctrine so designated takes as many shapes as Proteus; and when we would seize it in one form it takes another, and so eludes our grasp. It has, however, a true shape; and, when it takes this, we have only to commend it. There is a sense, or rather there are senses, in which man's knowledge is relative. First, he can know only so far as he has a capacity for knowing. In this sense, man's knowledge is all relative to himself. A man who has no eyes cannot know color; who has no ears cannot know sounds. There is the farther truth that man has the capacity of discovering relations between himself and other things, and between one thing and another. There is a third doctrine which is also true, that man's knowledge is finite: he cannot know all things; he cannot know all about any one thing. This, however, is not a doctrine of relativity: it is the old doctrine of man's knowledge being finite and not infinite, so earnestly inculcated by the Fathers of the Church, and by the profoundest divines and philosophers of modern times. So far we have truths, and truths of some importance, though the phrase Relativity is scarcely the word by which to express them.

"But this solid truth is employed as a means of gathering round it other and tenebrous matter,—as the cuttle-fish, when we would catch it, surrounds itself with inky darkness. The doctrine, as interpreted by its defenders, means that we know relations and not things; and, in the case of some, that it is the mind that creates the relations, and that it adds the relation out of its own stores. When it can be made to take and to keep this shape, I seize it at once. This doctrine must issue logically in Nescience. Relations between things unknown can never yield to knowledge. But I condemn it, not for its consequences, but because it is untrue, because it is inconsistent with consciousness.

"It is inconceivable that we should know relations between things unknown. A relation is the aspect of things towards each other: the Greeks designated it by πρὸς τι. If the things were to cease, there would be no relation; and if the things were unknown, there would be no relations known. Gravitation is a relation of one body to another, say between the sun and the earth; but if there were no sun and no earth, there would be no such relation, and if the sun and the earth were unknown to me, I could never know a relation between them." (pp. 119, 120, 121.)

Before we proceed with further reference to Mind, as a "substance," it is best, we think, to have some understanding of what is meant by *Substance*. Under that title, *Chambers' Encyclopedia* expounds that it is

——"a word connected with certain discussions in Logic and Metaphysics. Substance is correlative with Quality or Attribute. Every substance must have attributes, and every attribute must be the attribute of some substance. The substance gold has the attributes color, weight, &c. But as every power or property of a thing, every way that the thing affects us, may be called an attribute or quality, if all the attributes are counted off, there is nothing left; and the question then arises: What is the *substance?* To avoid this seeming inconsistency, it was assumed that every thing, whatsoever, possesses, besides its attributes, an unknown ~~sub~~- substratum that they rest upon or adhere in—a mystical and inscrutable bond, that holds the attributes together, without being itself an attribute. This gratuitous assumption of what is, after all, a nonentity, was repudiated by Locke and others, who found a meaning for substance without departing from the knowable. . . . . [These views explained.] Notwithstanding the obviousness of this explanation, the employment of the words Substance and Attribute has led to such an inveterate demand for something that shall underlie all attributes—a substance of body, and a substance of mind—distinct from any thing meant by the names, that many philosophers have considered it necessary to preserve the phantom as a thing of belief, if not of knowledge. The doctrine of an unknowable substance in the abstract very early allied itself with the popular theory of the Perception of a material world (see PERCEPTION), and the same arguments are good, for or against both." (*Chambers' Ency.*, tit. SUBSTANCE, Vol. IX., p. 175.)

The same work adverts, in various articles, to Emotion, Intellect, Will, &c., "as the chief component parts of our mental constitution;" and, under the title *Mind*, considers "the definition or precise demarcation of mind, as a whole." In the latter article it observes:

"In this subject we cannot resort to the common method of defining, which is to assign something more simple and fundamental than the thing to be defined; as when we define gravity to be an *attractive force*, the notions of force and attraction being supposed to be more intelligible than gravity, mind can be resolved into nothing more fundamental than itself; and, therefore, our plan must be, to call attention to these individual facts or experiences that are pointed out by the name, and to circumscribe, in some way or other, the whole field of such experiences. For an example of mind, we should probably refer each person to his pleasures and pains, which are a class of things quite apart and peculiar; we should also indicate thoughts or ideas, as mental elements; also exercises of will a voluntary action. There is a sufficient community of nature in those various elements to cause them to be classed by themselves, under a common designation, namely, MIND. If any one could be made aware of all the phenomena that have received this designation, he would, of course, know the meaning in the detail; but this is not enough. Mind being a general or comprehensive name, we ought to see, distinctly, the common character or attribute pervading all those particular phenomena. The recognition of this common character is the knowledge of mind, in general, or the determination of its defining attribute. For the settling of this common attribute, we have another great resource, besides comparing the individual facts; that is, to determine the opposite, or contrast of mind. Now, the usually assigned contrast is Matter." (*Chambers' Ency.*, tit. MIND, Vol. VI., p. 465.)

The two articles from which we have just quoted, continue, at some length, to state the distinctions to be observed in determining the separate existences of Mind and Matter; but as they do not specially dwell on mind as a *substance*, we omit further quotations, to make room, here, for other writers who, more directly, deal with it as one of the ascertained phenomena in physical science. In Division VI., Part II., we will treat the entire subject, more fully, in its metaphysical aspects.

According to the Philosophy of Common Sense we may confidently say that we certainly know, as an actual fact, that something material does now exist, for example, this orange; and we may say the same of every other substance appreciable by the senses.

Again: According to the Philosophy of Idealism we may confidently say that we certainly know, as an actual fact, that something material does now *appear* to exist, for example, this orange; and we may say the same of every other supposed substance, *apparently* appreciable by what we call our senses.

In either case "something," in both the broadest and the narrowest acceptation of that term, does exist; and it matters not, for the purposes of this argument, whether that something is an actuality or only an ideality; for, if an actual substance, it is an effect, dependent on a cause or causes; and if only an idea, it is also an effect, dependent on a cause or causes in like manner. Once admit the relation of cause to effect, and we have a Fundamental Principle, which serves us as ☞ A STARTING POINT ☜ in our process of reasoning; and this is all we need, at this stage of the discussion.

Berkeley abandoned theory for practice, when he descanted on the effects of tar-water. He claimed that it caused cures of diseases. Hume left the regions of imagination and dealt with seeming realities, including bloody battles, when he wrote the History of England. He there relates causes and describes their effects. Let us imitate their example, in applying the hypothesis of mere appearances, by accepting the theory of solid actualities. Notwithstanding we announce our willingness to accept either, as the true hypothesis, it will be more convenient for us, and more agreeable to the notions of the popular mind, in view of the revelations of Science, to think and act as if we really lived in the midst of both Mind and Matter.

Whether ideal, or actual ; whether founded on ideas and impressions, or on facts ;—we can truly affirm, as a fundamental principle, that the totality of all that is known or knowable may be called the Universe ; and then, let us endeavor to determine whether this totality is susceptible of two grand divisions, viz.: Mind and Matter ; the Intelligent and the Material ; the Spiritual and the Physicial.

The existence of the Universe, so called, no one denies. If there is nothing but spirit, according to the notions of Berkeley, then spirit constitutes the universe. If there are nothing but ideas or impressions, according to the notions of Hume, then ideas or impressions constitute the universe. If there is nothing but matter, according to the notions of Materialists, then Matter and the products of matter, such as Force, constitute the universe. If the universe is divisible into Mind and Matter, into the Intelligent and the Material, into the Spiritual and the Physical, then *these* constitute the universe. On any and every hypothesis heretofore advanced, it is admitted by all that there is, or *appears* to be, what is generally recognized as the Universe ; and we will now proceed to submit what learned men have to say concerning its divisibility into Mind, Intelligence or Spirit, on the one hand, and into Matter and the products of matter, on the other.

Hear what TYNDALL says:

> "Whether it be a consequence of long continued development, or an endowment conferred once for all on man at his creation, we find him here gifted with a mind, curious to know the causes of things, and surrounded by objects which excite its questionings, and raise the desire for an explanation. . . . . After many trials it became evident that man's capacities were, so to speak, the complement of Nature's facts, and that, within certain limits, the secret of the universe was open to the human understanding. It was found that the mind of man had the power of penetrating far beyond the boundaries of his five senses; that the things which are seen in the material world depend for their action upon things unseen; in short, that besides the phenomena which address the senses, there are laws and principles and processes which do not address the senses at all, but which must be, and can be spiritually discerned. (TYNDALL, in *Fragments of Science*. p. 75.)

Tyndall thus draws a line between Physics and Metaphysics. Physics is the "Science of the Material System," and Metaphysics is the "Science of Mind or Intelligence." (See *Webster's Dictionary.*) Physics searches after natural phenomena, that is, actual facts detected by the senses; and Metaphysics deals with "the principles and causes of all things existing," (see *Webster,*) that is, the "laws and principles and processes which do not address the senses at all, but which must be and can be spiritually discerned." (TYNDALL, *supra.*)

> "The name spirit came originally from an attenuated form of matter, the air or breath, because the air, like spiritual existence, is invisible. The formation of language is, to a large extent, thus based on analogies." (*Hooker's Natural Philosophy, p.* 13.)
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> "None of the senses can perceive spirit itself, though they perceive the effects which spirit produces on material substances If, for example, you move your arm, it is the spirit within you, acting upon the muscles through the nerves, that causes it to move; and you see here the effects produced by spirit upon matter, but you do not see the spirit itself." (*Ibid.*)

VICTOR COUSIN, who is called by Sir William Hamilton, the First Philosopher of France, has given us a book entitled "*Elements of Psychology,*" included in a Critical Examination of Locke's Essay on *The Human Understanding,*" &c., translated from the French by Caleb S. Henry, D. D., (New York: Ivison, Phinney, Blakeman & Co., 1864,) in which he thus distinguishes his views from those of Locke in respect to Mind and Matter:

> "In the view of Spiritualism, there will be but one substance, namely spirit, because there is but one single general phenomenon, namely, consciousness. In the view of Materialism, there will be but one substance, namely, matter, because there is but one single fundamental phenomenon, namely, solidity or extension. These are the two great systems; they have each their part of truth and their part of error, which it is not my purpose now to determine. I wish only to state the fact, that Locke inclines more to the one than the other, and that he is almost led to derive thought from extension, and consequently to make mind a modification of matter. It is true, Locke is far from explaining himself clearly on this point; but he advances the notion that it might not be impossible that matter, besides the phenomenon of extension, by a certain disposition and arrangement of its particles, might produce also the phenomenon of thought. He does not say that the soul is material, but that it might very well be so." (P. 370. See also the same subject continued on p. 371, *et seq.*)

All things solid, liquid and æreform, are generally recognized as material substances:

> "Some forms of matter can be perceived by all the senses; others can be perceived by only part of them; some by only one. Air you cannot see, nor smell, nor taste; but you can feel it, and hear the sound of its motion. Sometimes matter only affects the sense of smell, or that with the sense of taste. Sea air smells salt; but the salt in the air is so finely divided that we cannot see it. And yet it is the salt, entering the nostrils and coming in contact with the extreme fibres of the nerve of smell that produces the effect. So when we smell a flower, matter comes from it in particles so fine that no microscope can detect them, but they produce sensation when they strike upon the nerve" (*Hooker's Nat. Philosophy*, p. 14)
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> "From a physical point of view, matter is anything that can affect the senses, or that can exert, or be acted on by, force . . . . We can know matter only by the forces it exerts. . . . . Although experiment cannot lead to a knowledge of the ultimate nature of matter, it may lead to important discoveries as to the arrangement of the molecules of different bodies, and their similarity or dissimilarity. . . . . Newton proved, by careful experiments, that the weight of a body depends only on the quantity, not on the quality, of the matter that composes it." (*Chambers' Ency.*, tit. MATTER, Vol. VI, p. 367.)
>
> "Newton supposed 'that . . . in the beginning, . . . matter [was formed] in solid, massy, hard, impenetrable particles.' This he believed to be true of liquids, and even of gases, as well as solids. In the gas, these hard particles are much farther apart than in the solid. The supposition is a very probable one; but if it be true, it does not let us know what matter is; for it leaves us in the dark as to the nature of the particles. Newton further supposed that these particles have always remained unaltered, amidst all the changes that are taking place; these changes being occasioned by 'the various separations and new associations and motions of the permanent particles.' . . . . These

ultimate particles of matter are so minute that they have never been seen by man. The smallest particle that can be seen, with the most powerful microscope is, probably, made up of very many of them united together. These ultimate particles we term atoms ; and the theory in regard to the composition by those of different substances, is called the Atomic Theory." (*Hooker's Natural Philosophy*, p. 18.)

The speculations of such writers as Hume were rife before Chemistry became a "positive science." Analysis was first scientifically pursued by Bergman, of Sweden. He was born in 1735 and died in 1784. (*Brande's Ency.*, tit. CHEMISTRY, p. 221.) Under the exactions of Chemistry, in its dawnings as a science,the old speculations began to wither ; and, under the development of fact upon fact, in the gradual growth of chemistry, those schools found no noteworthy adherents among men of science. Chemistry established the Atomic Theory of matter, and accompanied it with an array of facts which no man of science, not even one of its Tyros, dares to deny. This theory overthrows all the subtleties of Idealism ; renders Materialism respectable in comparison with it ; and, while it compels us to thrust aside the pretensions of the Idealist to be ranked among philosophers, it encourages us to deal with the materialist as if he had *some* premises from which to deduce conclusions worthy of investigation. If Berkeley and Hume and their adherents were alive now, fully possessed of their best reasoning powers, they might insist that these revelations of chemistry were not actual facts but only ideas and impressions. But who would listen to them ? Their theories, based as they have been on pure speculation, would be considered absurdities when tested by theory based on the definite data of the ascertained facts discovered by Chemists and the experimental tests applied by Physicists. The actual existence of matter will be more readily acknowledged if we dwell somewhat at length on the Atomic Theory ; and although this may seem a work of supererogation, we will "err on the safe side" by incurring the risk of being called tedious.

It is important that we should have something more than a general idea of matter; and, as the facts we are now considering are fundamental, we propose to quote from *Chambers' Encyclopedia* several entire articles which treat the subject technically. Those who do not need to have their memories thus refreshed may skip these extracts, while those less favored will prefer to have the desired information imparted at once, without being obliged to seek it elsewhere. A learned Judge long since advised us to adopt as a general rule, in the preparation of a printed argument, the practice of quoting all we wish the Court to read, whenever the point is a leading one and the reasoning close; for, said he, "it is better to swell the number of pages by extracts from the authorities cited, than depend on the Court to consult the volumes to which references are given; because the judicial examination of the case may necessarily occur under circumstances when it would be inconvenient, perhaps impossible, to lay hand on those books; and in the press of other duties your references may not be consulted, their intended effect may be lost, the real point may not be fully apprehended, and the case, for this cause alone, may be determined against you." We have always thought this good advice; and, having adopted it in legal arguments with satisfactory results, we are naturally led to adopt it throughout the preparation of this.

[Here insert, entire, the following articles from *Chambers' Encyclopedia.*]

ATOM. (*Chambers' Ency.*, Vol. I., p. 526.)

ATOMIC THEORY. (*Ibid*, Vol. I., pp. 527, 528.)

ATOMIC VOLUMES. (*Ibid*, Vol. I., p. 528.)

ATOMIC WEIGHTS. (*Ibid*, Vol. I., pp. 528, 529.)

AFFINITY. (*Ibid*, Vol. I., p. 63.)

These extracts ought to be supplemented with some account of the slow growth of science in the discovery of the elements, which we think cannot be better done than by inserting an article by Professor Odling contained in the *Popular Science Monthly*, for August, 1872, (conducted by Professor E. L. Youmans, and published by D. Appleton & Co., New York.)

[Here insert this article, entire.]

Take the ordinary philosophical apparatus, called an air-pump, designed to produce a "vacuum" in a glass vessel. Exhaust the air from this vessel and what is left in it? Practically "nothing;" but, theoretically, *something*. This "something" is a more subtle substance than air, or any component of air. Between the atoms which form the glass vessel there are, upon the Atomic Theory, interstices; through and among which this subtle substance can pass freely. The vacuum, (so called,) produced by the action of the air-pump, invites, (so to speak,) the passage of this substance, through these interstices; or, it may be, indeed it is, upon this theory, a fact, that *some* of this substance was inside the glass vessel, before the air-pump was put in action; and, in either case, and, probably, in both cases, combined, the supposed vacuum may be said to have become "filled" with this substance. We say *filled*, for the want of a more expressive term; because this substance, mixed or unmixed, according to the complete perfection, or a diminutive imperfection, of the supposed vacuum, produced by the apparatus, may be said, upon the Atomic Theory, to constitute the *ultimate* occupant, (so to speak,) of "space." This substance may be what is called, in Physical Science, *Ether;* or, it may be, what is called, in Metaphysical Science, *Spirit*, or it may be both.

We shall, in due course, undertake to show that where physical substance, called matter, reaches its ultimate atoms, to the fullest extent conceivable by man, a *non*-physical substance, not subject to the conditions of the material and the physical, which are convertible terms, must come in, to take its place. All space must, of necessity, be occupied by Something; and we shall urge that this *something*, if not Matter, must be Spirit; or, that Matter and Spirit, both being *substances*, are inseparable, throughout ALL the manifestations of the Universe, with this exception, and this only, that Mind must, necessarily, have preceded Matter.

In another Division of this Argument, (Division VI., Part II., Subdivision~~s~~ ~~5~~ 7 ~~and 6~~, entitled MATTER ~~AND PHYSICAL FORCES~~,) we will dwell more fully on Matter and its manifestations. In Division I., which is now under consideration, our chief aim is to show as a Fundamental Principle that the general constituents of the Universe are Spiritual and Physical. Their actual existence is one thing; their movements or manifestations quite another. Their absolute existence and their manifestations cannot, however, be entirely separated, notwithstanding we may resolutely attempt to divide such an argument into general heads, and then subdivide it into topics of discussion. But we can limit the disclosures of Science on one branch, while we extend the disclosures of Science and couple Metaphysics with it, on another. At present, we are striving to confine the discussion to Science, alone, so far as possible; and, in due time we will call to our aid Metaphysics, which, chiefly, deals with *causes.* (See *Webster's Dictionary*, tit. METAPHYSICS.)

There is a "fluid" called *Ether*, which is said to pervade all space; and this is also called Matter. In his "*Undulatory Theory of Light*," Sir JOHN HERSCHEL says:

> "That an excessively rare, subtle, and elastic medium, or *ether*, fills all space, and pervades all material bodies, occupying the intervals between their molecules: and, either by passing freely among them, or by its extreme rarity, offering no resistance to the motion of the earth, the planets or comets, in their orbits, appreciable by the most delicate astronomical observations; and having inertia, but not gravity. That the molecules of the ether are susceptible of being set in motion by the agitation of the particles of ponderable matter; and that when any one is thus set in motion it communicates a similar motion to those adjacent to it; and thus the motion is propagated farther and farther in all directions, according to the same mechanical laws which regulate the propagation of undulations in other elastic media, as air, water, or solids, according to their respective constitutions." (*Brande's Ency.*, tit. LIGHT, p. 667.)

Tyndall speaks of Ether as "the name given to the interstellar medium;" and he adds:

> "The notion of this medium must not be considered as a vague or fanciful conception on the part of scientific men. Of its reality most of them are as convinced as they are of the existence of the sun and moon. The luminiferous ether has definite mechanical properties It is almost infinitely more attenuated than any known gas, but its properties are

those of a solid rather than of a gas. It resembles jelly rather than air. A body thus constituted may have its boundaries; but although the ether may not be co-extensive with space, we at all events know that it extends as far as the most distant visible stars. In fact, it is the vehicle of their light, and without it they could not be seen This all-pervading substance takes up their molecular tremors, and conveys them with inconceivable rapidity to our organs of vision. It is the transported shiver of bodies countless millions of miles distant, which translates itself in human consciousness into the splendor of the firmament at night." (*Fragments of Science.* Extracted from the Article on "The Constitution of Nature," p. 10.)

He then proceeds, at considerable length, to explain the part ether plays in the Universe as a medium for the transmission of light and heat. The entire article is so clearly and tersely expressed that we commend the whole of it to your attentive perusal. We shall have occasion to borrow from this great expounder of natural phenomena many times before we lay down our pen, and we must do so, sparingly, as we go along; for his voice is heard in the Lecture Room as we write this page. His lectures of the present course (New York, Dec., 1872,) are regularly published in the *N. Y. Daily Tribune*, and are extensively copied into other journals; and his writings have been so fully printed and widely distributed, in books, periodicals and newspapers, that we are, as a rule, with only occasional exceptions, content to state what he declares as ascertained fact, without giving much of his experimental and reasoning processes. These are either familiarly known or are readily accessible.

There are certain other accompaniments of Matter called "*Imponderable Agents,*" such as Light, Heat and Electricity. They are

——"supposed by some to be forms of matter. If they are, they are exceedingly attenuated; for their presence, as has been proved by many experiments, never adds in the least to the weight of any substance. They have therefore been styled imponderable agents. Their agency is of great importance and very active, producing every where constant changes. Two of them—heat and light—are obviously and immediately essential to life. What their real nature is remains as yet an entire mystery." (*Hooker's Nat. Ph.*, p. 18.)

But, according to the more recent developments of science, heat is atomic matter in motion; light is heat intensified;

that is, matter more or less incondescent; and electricity is heat and light conserved and correlated, in some way not yet sufficiently understood to admit of complete explanation. These things will be more fully considered in Division VI., where they more appropriately belong. Their simple existence is all we are here considering.

There are certain other accompaniments of matter called "*Physical Forces*," such as Gravitation, Cohesion, Chemical Affinity, Magnetism, &c.

> "Newton, in his second letter to Bentley, says, with respect to gravitation, (and it is obvious that similar language is applicable to molecular forces generally); 'You sometimes speak of gravity as essential and inherent to matter. Pray do not ascribe that notion to me, for the cause of gravity is what I do not pretend to know.' And again in the third letter: 'It is inconceivable that inanimate brute matter should, without the mediation of something else, which is not material, operate on, and affect other matter without mutual contact, as it must do, if gravitation, in the sense of Epicurus, be essential and inherent in it; and this is one reason why I desired you would not ascribe innate gravity to me. That gravity should be innate, inherent, and essential to matter, so that one body may act upon another at a distance through a *vacuum*, without the mediation of anything else, by, and through which their action and force may be conveyed from one to another, is to me so great an absurdity, that I believe no man who has in philosophical matters a competent faculty of thinking, can ever fall into it. Gravity must be caused by an agent acting constantly according to certain laws; but whether this agent be material or immaterial, I have left to the consideration of my readers.'" (*Chambers' Ency.*, tit. FORCE, Vol. IV., p. 420.)

It is said, that thus far, man has not been able to have any definite idea of the absolute nature of Force; and that he cannot until he knows what Matter is.

> "Any speculations on the subject could only lead us into a train of hypotheses entirely metaphysical, since utterly beyond the powers of experimental science. If we content ourselves with a definition of Force based on experience, such a definition will say nothing of its nature, but will confine itself to the effects which are said to be due to force; and, in the present state of our knowledge, it is almost preposterous to aim at more." (*Chambers' Ency.*, tit. FORCE, Vol. IV., p. 419.)

Nevertheless, we will, in Division VI., not only endeavor to give some definite idea of what matter is; but will, there, undertake to advance a theory by which the Forces, (so called,) may be recognized upon intelligible hypotheses.

Hear, again, what Tyndall says:

> "There are two things which form, so to say, the substance of all scientific thought. The entire play of the scientific intellect is confined to the combination and resolution of the ideas of *matter* and *force*. . . . . All force may be ultimately reduced to a push or a pull in a straight line; but its manifestations are various, and sometimes so complex as entirely to disguise its elementary constituents. Its different manifestations have received different names" (*Fragments of Science*, pp. 75, 77.)

In the same book, and partly in the same article, Tyndall speaks of the forces of "magnetism," of "gravitation," of "crystallization," of "electricity," of "chemical combinations," of "cohesion," of "mechanical mixture," and the development of "heat," and of "light." To attempt to explain these things fully would involve the whole sciences of Chemistry and Physics. It is difficult to determine how much of detail to unfold in such complex departments of science. Our present aim, we repeat, is to show, in this Division of the Argument, not what matter and its accompaniments of force are, but to establish, as *fact*, that matter and its manifestations of force exist, on the one hand, distinct from an existence of spirit and its manifestations of intelligence, on the other.

There is a class of thinkers who display powers of reasoning which might be profitably imitated by more pretentious theologians of the "orthodox" school; and, while we do not adopt their faith, we find in their publications a trenchant method of treating the subject, accompanied by a clearness, directness, boldness and fairness which will always command respect. Their style, possessing as it does these especial characteristics, invests their writings with a power which cannot be disregarded. We refer to the advocates of SWEENBORG, the distinguished founder of the "New Jerusalem Church."

CHAUNCEY GILES, one of the Ministers of that Church in the City of New York, has published a series of "*Lectures on the Nature of Spirit, and of Man as a Spiritual Being.*"

(New York: Published by the General Convention of the New Jerusalem Church, in the U. S. of America: At its Publishing House: 20 Cooper Union, 1867.) He takes this view of Spirit in its relation to Matter:

> "What is spirit? I use the term spirit in the same sense I would use the corresponding term matter, in the question, What is matter? This is a primary and most important question, and upon its correct answer depends all distinct and true knowledge concerning the spiritual world." (p. 18.)
>
> "Our doctrines teach us clearly and explicitly that spirit is a *substance*. . . . . . . There are material substances and spiritual substances, entirely distinct from each other. Matter is not spirit, and spirit is not matter; but both are real substances. . . . . Every material thing is made out of some material substance. . . . . . . The material body is organized of material substances of various kinds. In the same sense, we mean that spirit is a substance, and that every spiritual existence is formed from some spiritual substance. . . . . . . Man is a spirit, as to one part of his nature, and that part is formed of spiritual substances. If there is a spiritual world distinct from a material world, that world and all things in it must be formed of spiritual substances. But if we are asked what a spiritual substance is, *in itself*, we cannot tell. It is just as impossible, however, to form any idea of what a material substance is, in itself. Who can tell what clay, or wood, or iron, or water, or gas is, in itself? Our knowledge of every thing is limited by its relations to us; by its effects upon us. We are no more called upon to define what spirit is, in itself, than we are to define what matter is, in itself. It is impossible to do either. It is no objection, therefore, to the doctrine that there are distinct spiritual substances, that we cannot define what they are, in themselves. All that we can know of any substance, material or spiritual, is, the necessary conditions of existence, and the qualities that inhere in it, as their subject; and we can lean these qualities, only, from the relation of the subject to us. (pp. 8, 9.)"
>
> . . . . . . "If a material world can be formed out of material substances, surely it is not illogical to infer that a spiritual world, composed of objects as numerous and various in quality, can be formed out of spiritual substances" (p. 14.)

Mr. Giles proceeds with his argument to show: 1st, That spirit is a *substance*; 2d, That there is a spiritual world formed of substance, not matter, but analogous to what we behold on the Earth; 3d, That this world is *here*, and, as to any other inhabitable world, as to its inhabitants, *there*; and, 4th, That the inhabitaants of this or those worlds, have the same relations to this or those worlds that we have to this. He also contends that his views are in perfect accord with the Bible, which we mention, not that it strengthens our argument, at this stage of it, but to indicate what standpoint he occupies.

The great champion who, in our judgment, stands out most prominently as the best exponent of the distinction between Mind and Matter is Dr. McCosh. He displays a boldness and originality on this subject, which we have found equalled by no other thinker. He unhesitatingly affirms that mind is a substance; as much so, as matter; and although it is best to read *all* the lectures included in his work entitled *Christianity and Positivism*, which lead to this result, we must content ourselves, in the limits of this argument, with a quotation of his succinct conclusions, rather than with a repetition, at length, of his inductive reasonings, step by step. He asks, (p. 100), "What proof have we of the existence of Mind?" and, further on, (pp. 101 to 110), he states and argues these propositions:

"1. Man has means of knowing the existence of mind as immediate as the means of knowing the existence of matter.

"2. We have a positive though limited knowledge of mind, even as we have a positive though limited knowledge of body.

"3. As matter cannot be resolved into mind on the one hand, so mind cannot be resolved into matter on the other."

He next asks, (p. 110), "What does the mind reveal to us?" And he follows the question by these observations:

"And, here, in order to settle what realities we have, we must first be rid of certain counterfeits. For we are met at this point by ghosts, which have been walking abroad in the darkness. I have been seeking for years past to scare them away, but have not succeeded, for there are still persons believing in them and frightening us with them; and it is the law of the life of errors, as it is the law of the life of ghosts, that, as long as men believe in them, they will appear: the demand brings the supply; the eye that is looking for them will certainly see them.

"I hold, very strenuously, that man is so constituted that he can attain knowledge, that he can know things. I maintain that man's intelligent acts begin with his knowing things. By the senses he knows things: his own bodily frame as affected by all the senses; a solid body by the muscular sense, and a colored surface by the eye. We also know things by self consciousness, or the inward sense: we know self as thinking, feeling or willing—as at this moment pleased or not pleased with this Lecture. I have studiously chosen my words. In using them, I do not mean that we know simply thinking, feeling, or willing: these have no separate or independent existence,—have no existence apart from self thinking, feeling, or willing,—are in fact mere abstractions. What we know is self thinking, feeling, willing; not self apart from these operations, but self in these operations. This may seem too nice a distinction; but it is the only expression which unfolds the full truth. A man is not conscious of thinking apart from self, any more than he is conscious of self apart from thinking, or some other exercise. It appears, then, that, both by the outward and the inward sense, we begin with knowledge, with the knowledge of things.

"But I hear some one asking in astonishment, Do you really mean to say that you know the thing,—the thing in itself? It is said of Scotchmen whether justly or not I will not take it upon myself to say—for I am not altogether impartial in speaking of Scotchmen—but, truly or falsely, it is alleged of Scotchmen that, when asked a sharp question, they are apt to put a sharp question in return. I am inclined to use the Scotchman's privilege on this occasion, and inquire, What do you mean by a *thing in itself?* The phrase is a German one, the translation of *Ding an sich*, so frequently used by Kant, and which so many have been conjuring of late years. What a thing means, I know; and I hold that, in every exercise of the senses, we know the thing. this body or that body; and that in every exercise of self-consciousness we know the thing itself that is, ourselves in a particular state. But what is meant by the *thing in itself* I do not know; and, think it proper not to affect to know. Does it mean that, besides the thing we know, there is something else,—a thing *plus itself?* This *itself*, in addition to the thing, I confess I do not know; and, as knowing nothing of it, I have no faith in its existence, and I do not see any purpose to be served by it. If it mean that the thing is within the thing, I have about as clear a notion of what is signified as I have of the whale that swallowed itself, or of the Kilkenny cats which ate one another all but the tails. Maintaining that we know the thing, I give up the *in itself* to metaphysicians as a ghost to be believed in, or not believed in, just as they please.

"But then it is declared, gravely and pompously, by men who look as if they were possessed of all wisdom, that we do not know things, but *phenomena;* that is, appearances. And if, by this, they mean that we can know things only so far as they manifest themselves to us, I admit it: it is a truth; it is a truism. We know things only so far as they appear unto us. A man without eyes cannot see; without hearing, cannot hear. But then it is *the things* which manifest themselves unto us that we know. An appearance without a thing appearing is inconceivable, is an impossibility. Even a cloud appearing has something, is something: it is moisture in a vaporous state; and, were we to enter it, it would leave some of its sprinklings upon us. A shadow, even, is a something: it implies a dense body obstructing light, and keeping it from falling on a defined surface. An image in a mirror is something: it requires glass and quicksilver, and rays of light and an eye. In one of Longfellow's works, there is a dispute as to whether the narcissus, or its shadow reflected in the water, is the reality. The dispute can be settled. Both have a reality: the one in a solid plant, the other in rays of light coming from the plant and thence reflected. I admit that we know phenomena, and only phenomena, but this in the sense of things appearing.

"But then it is said, Surely, you do not pretend that you know matter and mind as *substances?* Before replying, I have once more to insist that it be explained what is meant by the phrase. According to Locke, and

English metaphysicians, it means something lying under, underneath, or behind the thing known. Locke says, Hamilton says that this something is unknown and unknowable. Now, I am prepared to give up this substance beneath the thing, even as I gave up the *in itself*, which some place within the thing. This addition is supposed to be a substratum or support. But I am not sure that the thing, say mind or body, needs any such support. I cannot see that this shadowy thing, unknown and unknowable, cloud or abyss, or pit or darkness, is fitted as a substratum to bear up mind and body, which may require nothing else to uphold them as a substratum, beyond the powers with which God [if there be a God] has endowed them.

"But while I am ready to dispense with this under support, as an intermeddler which would separate us from things, I maintain very resolutely that mind and body are entitled, not by the aid of anything else, but of themselves, to be regarded as substances. And if some one pay me back in my own coin, and ask me what I mean by substance, I am prepared to answer. There are three things involved in substance: First, it has being; or, to speak more plainly, the thing exists. Secondly, it has potency; that is, power to act. Thirdly, it has a permanence, or a certain continuance and endurance,—such an abiding nature that it is not created by our looking at it; nor does it cease to exist because we have ceased to contemplate it. Whatever possesses these three qualities, I call a substance. Both mind and matter are known as possessing them. Mind, that is self, is known, first, as having existence or being. We thus know it in every act of self-consciousness. True, we can say little about bare being or existence; but this not because we do not know it, but because it is so simple. About complicated objects we can say a great deal—for instance, about the Roman empire, and modern civilization, and the constitution of the United States—because of their many elements and relations. But we can say little of such things as pain and pleasure and self, not because we do not know them, but because every one knows them, and they cannot be made clearer by a description: they involve no composition, and are not made up of ingredients.

'Who thinks of asking if the sun is light,
Observing that it lightens?'

Those who attempt any thing more, and to peer into the object, will find that the light (like that of the sun) darkens as they gaze upon it. 'When I burned in desire to question them farther, they made themselves—air, into which they vanished.' Again, we know mind as having potency or power; as influencing other things, and being influenced by other things; as exercising power over its own thoughts and over the bodily frame. Once more: I know it as so far permanent and independent that it is not a mere momentary or ephemeral impression or idea; it is not created by my looking at it; it existed prior to my observing it, and because it did so, that I was able to observe it; and it does not cease to exist because I have ceased to view it. The mind (like the body) having these three attributes,—being, potency, and permanence,—is to be regarded as a substance.

"It is necessary to establish these points; for, ever since the days of David Hume, and especially in these days of revived scepticism, the subtlest form of infidelity proceeds on the denial of them. The denial is defended by metaphysicists, and is eagerly seized by physicists, who are no philosophers, but who are anxious to have a philosophy to serve their purpose." (*Christianity and Positivism*, pp. 110 to 116.)

These quotations are from his Fourth Lecture. In the Seventh, he discusses Materialism ; alludes to the circumstances favoring it ; defines the parts of the body most intimately connected with mental action ; refers to the grosser and more refined forms of materialism ; speaks of the views of Buchner, Maudesley, Bain, Huxley, Tyndall and Spencer ; states the objections to materialism ; and undertakes to show that mind is not one of the correlated physical forces He concludes with "a hypothesis which seems to combine a number of the facts established by recent science ;" and which he gives in these words :

> "Mind does not seem to me to be connected with rude matter, with the molecules of matter ; but with the forces in matter, with the correlated forces. There is need of a concurrence of force in the brain in order to mental action. This is supplied by the alimentary and digestive organs, which may send it to the brain in the form of blood. They get it in the shape of food from vegetables or animals, which again get it, as every man of science knows, from the sun. The power which radiates from the sun enters the plant, which is eaten by the ox, which is eaten by us ; and the organs of the body send it on to the brain, where it is laid up like water in a reservoir. One main function of the brain, especially of the gray matter, is to receive and distribute it. The brain is provided for this purpose, is partly formed, I believe, by this very force accumulating there from day to day and year to year. Here, then, we have force of some kind, and a brain to hold it, to direct it, and enable the mind to use it. But all this is not thinking, is not knowing or feeling or willing ; in all this there is no discernment, no hope or fear or desire, or appreciation of the beautiful, or of good and evil. A current of nerve force running through the cortical cells of the brain is one thing, the thought of Mayer in arguing out the doctrine of the correlation of the physical forces is an entirely different thing.
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> "I am inclined to admit that . . . . . our present compound nature [is so constituted] that, without physical force distributed in the brain, the mind will not work,—just as a water-mill will not work if it has no water. And when the mind works, it uses and changes this power, which takes a new form. It is not thereby either increased or diminished : it merely gets a new distribution ; runs down, in fact, to the lower parts of the frame, and goes out in dregs, and is no longer available to the mind, which will act healthily only so far as it has a supply of this physical force. When this force is exhausted, the mind feels helpless for the time—the mill stops. If, by a disturbance in the brain, the force is improperly directed, there may be that most melancholy of all sights, a derangement in the mental operations. On the needful force being supplied, the mind is ready to work, and in doing so obeys its own laws—the mill obeys the laws of its own machinery : the mind thinks according to logical laws, feels according to the laws of feeling, appreciates beauty according to the laws of æsthetics. If the force is supplied in proper measure, and in the proper channels, the mind acts freely and healthily. If not

supplied in due order, the mind is arrested, disturbed, agitated, and its proper action interfered with; and gloomy thoughts and perverted feelings may arise. But all this, while the physical force is one thing, and mental action is another thing—just as the mill machinery is one thing, and the water which it needs another thing. And though the water were to cease, it does not follow that the other must also cease. The water would flow on whether there be a mill or no. The mill might go by some other power,—say steam,—supplying the needful conditions. As man is at present constituted, the mind needs the physical force and the brain-case to hold that force and direct it; but this does not show that in another state of things the mind might not without the body,—and on other conditions being supplied,—think and feel and act as it did before. When a blacksmith's stroke is stayed by striking on the anvil, we know where the power has gone: it has gone into the molecular motion or heat of the body struck. When the body of the animal dies, we know where the power has gone: it has gone into the soil to enrich it. When Newton died, where did the intellectual force go? I know where: it went not down into the earth with the body, but . . . . (*Christianity and Positivism*, pp. 217, 218, 219.)

Let us not forget that the title of this chapter is "Fundamental Principles." We started out with the proposition that something does now exist, and we followed this with the proposition that the Universe is composed of Mind and Matter, the Intelligent and the Material, the Spiritual and the Physical; and what we have thus far said and quoted has been designed to show that, from the best lights of Science, known or conjectural, whether ascertained from actual experiment or deduced from theory, these two grand divisions are recognized as real existences and constitute a Totality of the Knowable.

Once more we refer to our continuation of the discussion as to the distinction to be observed between Mind and Matter, in Division VI. The First and the Sixth Divisions should be considered together. While we claim that either division contains sufficient to satisfy, both combined render the argument doubly conclusive.

We must assume *something* as "known" or as *appearing* to exist.

We will assume that the Universe exists or appears to exist; and that it has or appears to have two grand divisions of Mind and Matter, the Intelligent and the Material, the Spiritual and the Physical, as we have stated. Whether this assumption is based on realities or only on what appear to be so, it will not affect our conclusions; for, if the cause of these appearances is shown to be an intelligent power, called God, his *existence* is thereby shown just as conclusively as if we argued from actual instead of from apparent facts.

Again, we will claim that our inability to explain what Mind, Matter or Force, is, *in itself*, will not alter the fact or apparent fact of the existence of each and all of them. Nor will it affect our argument one way or the other, so far as it is designed to prove the simple proposition that an intelligent power *caused* their real or apparent existence.

No one, except a follower of Hume, denies that every effect must have a cause; whether it be purely ideal, or material, or mixed. Put the conception into any shape the human mind may construct, and the one fundamental fact remains that whatever is, is caused, except a First Cause, if there be a First Cause, which we shall attempt to prove hereafter.

Bishop Horne, in his *Introduction*, gives this epitome of Hume's "scepticism:"

"During the latter part of the Eighteenth Century, flourished David Hume, whose acuteness of observation, and elegant style, have secured for his writings an extensive circulation. He asserts that there is no perceptible connection between cause and effect;—that the belief of such connection is merely a matter of custom;—that experience can show us no such connection;—that we cannot with any reason conclude that, because an effect has taken place once, it will take place again;—that it is uncertain and useless to argue from the course of nature, and infer an intelligent cause; that we cannot, from any analogy of nature, argue the existence of an intelligent cause of all things;—that there is no reason to believe that the universe proceeded from a cause;—that there are no solid arguments to prove the existence of a God;—that experience can furnish no argument concerning matters of fact, is in this case useless, and can give rise to no inference or conclusion; *and yet*, that experience is our only guide in matters of fact, and the existence of objects;—that it is universally allowed, that nothing exists without a cause; that every effect is so precisely determined, that no other effect could, in such circumstances, have possibly resulted from the operation of its cause;—that the relation of causes is absolutely necessary to the propagation of our species, and the regulation of our conduct;—that voluntary actions are necessary, and determined by a fixed connexion between cause and effect; that motives are causes operating necessary on the will; that man is a mere machine (that is, an object operated on

> necessarily by external causes);—that there is no contingency (that is, nothing happening without a settled cause) in the universe; and that matter and motion may be regarded as the cause of thought (that is, the soul is a material cause, and thought its effect);—that God discovered to us m any faint traces of his character; and that it would be flattery or presumption to ascribe to him any perfection which is not discovered to the full in his works (and of course, that it would be flattery or presumption to ascribe any perfection to God);—that it is unreasonable to believe God to be wise and good;—that what we believe to be a perfection in God may be a defect (that is holiness, justice, wisdom, goodness, mercy, and truth may be defects in God);—consequently, injustice, folly, malice and falsehood may be excellencies in his character;—that no reward or punishment can be rationally expected beyond what is already known by experience and observation." (*Horne's Introduction.* New York: Robert Carter & Brothers. 1854. Vol. I., p. 24.)

We do not quote directly from Hume to verify the correctness of this statement of his reasoning; because this abstract of them by Bishop Horne fits in more conveniently here, and will probably be accepted as sufficient. He starts out with a denial that there is any "perceptible" connection between cause and effect; "and yet" he afterwards substantially admits "that it is universally allowed, that nothing exists without a cause." On the one hand he asserts "that we cannot with any reason conclude that, because an effect has taken place once, it will take place again;" and on the other hand he declares "that every effect is so precisely determined, that no other effect could, in such circumstances, have possibly resulted from the operation of its cause." He says "that there is no reason to believe that the universe proceeded from a cause;—that there are no solid arguments to prove the existence of a God;" and further on he observes "that God discovers to us only faint traces of his character." If these are not really the baldest contradictions, they at least appear to be so, on a cursory reading; but his nicely drawn distinctions, when elaborated from the abundant resources of his great intellect, imbued, as it was, with powerful subtleties, were rendered deserving of investigation and an attempt at refutation. And this has been successfully done, we think, by men of equal if not superior mental power. Indeed, Hume's philosophy, under the immense pressure of later contributions of science, may be said to have "sunk out of sight." It might, perhaps, be more properly said to have "fallen of its own weight."

Those who, at the present day, hold to such views, or who would make every thing to consist of "ideas" only, are so few in number that it is sufficient to simply refer to them as singular exceptions. It would be difficult to find one educated man in a thousand who would agree with them; and it would never occur to the uneducated that there could be such a theory. But were they more numerous, none of them would now, in these days of scientific discoveries, deny that ideas or impressions are effects proceeding from some preëxisting cause; and this would enable us to pursue our agument without noticing them further; for, whether ideas, alone, or matter in conjunction with ideas are to be considered, the unmixed and direct inquiry, as to the existence of a First Cause, need not be disturbed. The same line of reasoning will apply to all; to those who admit, as well as to those who deny the existence of matter; because the ground we shall take, is, that both ideas and matter, either separately or together, or whether one exists without the other, proceeded from an intelligent preëxisting power; and it would suffice, at this point in the inquiry, if we should concede that the existence of matter is only apparent; or, still further, that our ideas are only a product of matter.

We do not intend to be tied down to any particular theory as to the nature or quality of the constituents of the Universe, so long as the existence or apparent existence of Mind and Matter be acknowledged as its two grand divisions. The subdivisions of either division may be few or many; and the subdivisions of either division may be classified by any method or methods of reasoning which man may devise, contrive or invent; still, so long as the *fact* is acknowledged that there exists or appears to exist in the constitution of the Universe a division line between Mind and Matter, between the Intelligent and the Material, between the Spiritual and the Physical, we shall, throughout the entire chain of our argument, and in every one of its links, claim that Matter, real or apparent, was not only, and *necessarily*, caused by Mind, but that every movement or manifestation of Matter, real or apparent, and of its every accompaniment of Force, (so called,) is dependent upon Mind, referrable, *ultimately*, to an Intelligent First Cause.

From the considerations thus far adduced, we claim that the following may be safely accepted as Fundamental Principles, viz.:

1. Something does now exist.

2. Mind exists.

3. Mind perceives that Matter exists or appears to exist.

4. The Totality of existence or apparent existence constitutes the Universe.

5. If there is nothing but Mind, then Mind constitutes the Universe.

6. If there is nothing but Matter, then Matter constitutes the Universe.

7. If there are both Mind and Matter, then *these* constitute the Universe.

8. Manifestations or apparent manifestations of Matter are Effects.

9. Every Effect must have a Cause.

10. All Causes are Secondary ; that is, they are effects of a preceding cause, or causes, *except* a First Cause, if there be a First Cause, which remains to be shown.

Or, they may be stated thus :

1. Something does now exist and move.

2. Mind exists and moves.

3. Mind in motion perceives that Matter exists and moves or appears to exist and move.

4. The Totality of Existence or apparent existence constitutes the Universe.

5. If there is nothing but Mind, then Mind constitutes the Universe.

6. If there is nothing but Matter, then Matter constitutes the Universe.

7. If there are both Mind and Matter, then *these* constitute the Universe.

8. Real or apparent Movements of Mind or Matter are Effects.

9. Every Effect must have a Cause.

10. All Causes are Secondary ; that is, they are effects of a preceding cause, or causes, *except* a First Cause, if there be a First Cause, which remains to be shown.

Or, they may be stated thus:

1. Man exists.
2. Man thinks.
3. Man, thinking, Perceives existences, or apparent existences, besides himself.
4. There is no thought without Motion of mind or matter.
5. Whatever moves is Substance.
6. If Mind alone moves, then Mind is the only substance.
7. If Matter alone moves, then Matter is the only substance.
8. All movements of either Mind or Matter, or of both combined, are Effects.
9. Every Effect must have a Cause.
10. All Causes are secondary; that is, they are effects of a preceding cause, or causes, *except* a First Cause, if there be a First Cause, which remains to be shown.

Or, they may be stated thus:

1. You exist. This is the "Ego."
2. You think. This adds the "Non Ego."
3. You think you see, hear, smell, taste and feel some *other* existence. This is Perception.
4. When you do this, there is an Impression of something from without, made upon something within you. This is Consciousness.
5. When you recognize this impression you become possessed of an Idea of something from without, capable of making an impression, being impressed upon something within you, capable of receiving an impression. This is Knowledge.
6. You discover that this idea is retained, so that you can recall it. This is Memory.
7. You also discover that you can thus recall several memories, and compare one with another. This is Reflection.
8. All these processes are Effects.
9. Every Effect must have a Cause.
10. All Causes are Secondary; that is, they are effects of a preceding cause, or causes, *except* a First Cause, if there be a First Cause, which remains to be shown.

Or, they may be stated thus:

1. Something is.

2. You are.

3. You had a Beginning.

4. A beginning necessarily implies Motion.

5. Motion necessarily implies a Motor.

6. Motor and Motion necessarily imply Something moving Something.

7. Something in motion necessarily implies Substance acted upon by Substance.

8. Substance acted upon by substance necessarily implies an Effect.

9. Every Effect must have a Cause.

10. All Causes are Secondary; that is, they are effects of a preceding cause, or Causes, *except* a First Cause, if there be a First Cause, which remains to be shown:

The last proposition involves the necessity of our saying, We positively know that Mind exists; and it also involves the necessity of our assuming either that Matter does actually exist, or that it appears to exist. And while we again insist that either hypothesis will answer our purpose, we say, once more, that, for convenience, we will hereafter suppose the existence of Matter to be real; and we will now proceed to prove that it was caused by a First Cause; by a preëxisting and designing mind; by a Supreme Being, who *created* it from "nothing;" by a Great Originator, called GOD.

2. The Initial Inquiry.

If the existence of these two grand divisions in the universe, viz., Mind and Matter, be conceded, the question arises: Has Matter been "from all eternity;" or, was its existence caused by a preëxisting intelligent power, viz., Mind?

Some able thinkers have sought, irrespective of Scriptural revelation, to construct an argument for the being of God, without proving, as a link in the chain, that matter had a beginning. Others have assumed it as a fact intuitively known.

These arguments have not been generally accepted as conclusive, not even by theologians; and it will be found, on exploring the extended range of discussion which Natural Theology has covered, that the latest approved authors, in this department of literature, have considered any argument defective which does not treat this question as of the first importance.

> "A man may believe that the universe is eternal; but that it began to be without a cause—that it sprang out of nothing—it is impossible to believe. We are reduced, therefore, to this alternative. The universe is. It therefore either has been from all eternity, or it owes its existence to a cause out of itself, adequate to account for its being what it is. The theistical argument is, that the world is an effect; that it is not the cause of existence in itself, that it is not eternal, and that therefore we are necessitated to assume the existence of a great First Cause, to whose efficiency the existence of the universe is to be referred. . . . .
> In all ages thinking men have been forced to this conclusion. Plato and Aristotle argued from the existence of motion, that there must be . . . . . . an eternal self moving power. . . . . The validity of this argument is acknowledged by almost all classes of philosophers, at least so far as to admit that we are forced to assume the existence of an eternal and necessary Being." (*Systematic Theology*. By Charles Hodge, D.D. New York; Charles Scribner & Company. 1872. Vol. I., p. 212.)

There are many reasons why it might be *assumed*, aside from proof of it as a "fact." The argument which would bring it about as an assumption is metaphysical. The conclusion which would establish it as a fact is scientific.

The metaphysical method would be an elaboration of such announcements as these by Sir William Hamilton: "Invincibility of belief is the truth of belief." (*Philosophy*, edit. Wight., N. Y., 1854, p. 233.): "Whatever is by nature necessarily believed to be truly is." (*Ibid*, 226.) Also, such as these, by Dr. Charles Hodge, in his work last mentioned: "This principle [just quoted from Hamilton] is the foundation of all science and of all faith." (*Systematic Theology*, p. 340.): "By the fundamental principle of all true philosophy, what we are forced to believe must be true. It is true, therefore, that GOD really is what we take him to be, when we ascribe to him the perfections of our own nature, without limitation and to an infinite degree." (*Ibid.*, 341.) Thus, he would argue: We have power to will and to do to a limited extent; therefore, GOD has power to will and to do to an illimitable extent, even unto the creation of matter from nothing. Again: We have limited power to cause some effects; therefore, GOD has unlimited power to cause all effects. This reasoning assumes that matter is an effect; in other words, that it was caused; which is "begging the question." We think the argument insufficient unless we prove the assumption to be a fact, as we would any other fact, for example, that *something is*.

DR. SQUIER, who died in 1866, left the manuscript of a work which was afterwards published, entitled *The Being of God*. It is small and unpretentious; but, for originality and acumen, it is a remarkable book. In the opening paragraphs he writes:

> "The existence of God is a fundamental subject of thought. Nothing underlies it or goes before. All theology and moral science arise out of, and depend upon it. If God be not, then nothing is. All else must be resultant of him, and take on the postulate that he is. How can the finite be but by reason of the infinite, the created but by the uncreated,

the dependent but by the independent, the conditioned but by the absolute and eternal.

"Investigations in theology and moral truth have been much at fault here. They have shown weakness and equivocation, where of right belonged manhood and strength. The subject has not had justice at the hands of its friends. We have failed in method and in cogency of argument, in the reliability and comprehensiveness of our positions, in the resources and completeness of our logic and convictions. We have felt as if the theory of truth here was involved and intricate; as if the thread of the Sybil conducted us through dark and cavernous passages, and along by-ways which we knew not; that, there, water was too deep for us, and that we must, here, pass from the sphere of knowledge into that of simple faith.

"In this direction the English mind has taken the lead. Sir William Hamilton has formally stated 'that the *knowledge* of God is impossible,' in his article on the 'Unconditioned'—a position which has been laboriously supplemented by Dr. Mansel, of Oxford, in his *Limits of Religious Thought.* The natural effect of such counsels is to beleaguer conscience and embarrass faith, and set men free from the obligations of religion. And the seed has already borne its legitimate fruit. This is observable in the new impulses and encouragement of '*Positive Science*' on the one hand, and of philosophic atheism and infidelity on the other. What else could be expected? Men will not forswear their intelligence. They will not be religious by prescription, or believe beyond the limits of rational conviction. They will not consent to this divorce between reason and faith; and if attempted by those who should assist their faith, they will only choose their own alternative, and repudiate a creed that does not take the intellect into its conclusions, and build its economy of belief on those enduring principles and first truths which are common to all safe and satisfactory inquiry in other departments of knowledge. Indeed, the conscience should have special help here, in view of the 'law in the members,' warring against the 'law in the mind.' It is suicidal to put reason and conscience in antagonism, or reason and faith. And yet this has been the anomaly and perturbation of our theology hitherto, and its false mission to the thinking classes of men. . . . . Error germinates in the twilight of conviction, and grows rank in the oscillations and tergiversations of truth." (*The Being of God.*, &c. By P. Squier, D.D. Rochester, N. Y.: E. Darrow & Kempshall. 1868. pp. 19, 20, 21.)

He deals with the subject, however, as a Metaphysician; while Tyndall, on the other hand, treats it as a Physicist.

"The ultimate problem of physics is to reduce Matter, by analysis, to its lowest condition of divisibility, and Force to its simplest manifestations; and then, by synthesis to construct, from these elements, the world as it stands. We are still a long way from the final solution of this problem; and when the solution comes, it will be one more of spiritual insight than of actual observation. But though we are still a long way from this complete intellectual mastery of Nature, we have conquered vast regions of it, have learned their polities and the play of their powers." (*Fragments of Science*, p. 100.)

Whether the final result be brought about by "spiritual insight," or whether it be attained by "actual observation," we shall claim that, by whichever process the result is reached, our Logical Conclusions, (*post*, Division I, Subdivision 10,) on the particular and single proposition now under discussion, viz., The existence of GOD without a Bible, will be just the same, in the one case as in the other. "When the solution comes," and we agree with Tyndall that the solution will finally come, if it has not come already, it will refer all phenomena in nature to some cause, and finally to a First Cause. But let us not anticipate. Let us wait and see.

—— "Materialism [is] a word which, to many minds, expresses something dreadful. But it ought to be known and avowed that the physical philosopher, as such, must be a pure materialist. His inquiries deal with matter and force, and with them alone. The action which he has to investigate is necessary action; not spontaneous action—the transformation, not the creation, of matter and force. And whatever be the forms which matter and force may assume, whether in the organic world or in the inorganic, whether in the coal beds and forests of the earth, or in the brains and muscles of men, the physical philosopher will make good his right to investigate them. It is perfectly vain to attempt to stop inquiry as to the actual and possible actions of matter and force. Depend upon it, if a chemist by bringing the proper materials together, in a retort or crucible, could make a baby, he would do it. There is no law, moral or physical, forbidding him to do it—his inquiries in this direction are limited solely by his own capacity and the laws of matter and force. At the present moment there are, no doubt, persons experimenting on the possibility of producing what we call life out of inorganic materials. Let them pursue their studies in peace; it is only by such trials that they will learn the limits of their powers." (*Fragments of Science*, p. 92.)

Thus admonished, we take as the Initial Inquiry: Did Matter have a beginning?

3. THE CONCEIVABLE AND THE INCONCEIVABLE.

We cannot conceive that matter had a beginning, unless we first conceive of it as not existing.

In our contemplation of the material part of the universe, can we form a conception of the non-existence of matter? We think we can; and if it should be admitted by all that we can, it would simplify the argument. But this is not admitted by all; for there are some metaphysicians, like Sir William Hamilton, who say: "We can think no real annihilation—no absolute sinking of something into nothing." (*Chambers' Ency.*, tit. Sir WM. HAMILTON, Vol. V., p. 216.)

We single out and refer to Sir William Hamilton because he was the most learned and scientific in a peculiar school of Scotch Philosophy, "which limits positive thought to the conditioned sphere between the contradictory poles of the infinite and the absolute." (*Ibid*) He died in 1856, and, although he left few to support this doctrine, their number and respectability are sufficient to exempt them from being ignored. (*Ibid.*) We must, therefore, dwell on this point further; and it will be more convenient to do it at once.

We discovered the status of Hamilton long before those of the works of Dr. McCosh and of Dr. Charles Hodge, which have been published since the year 1868, made their appearance; and we were much gratified to find that these close thinkers had also singled him out, undoubtedly long before we did, but without our knowledge, as the most formidable opponent of the theory which we are now advocating. The "thread of our argument" was strung before 1868; but we have kept pace with publications, since that date, and, on the eve of the issue of this work, we have interpolated quotations and thoughts derived and suggested from publications subsequently put forth from the press.

Dr. McCosh couples the name of Mr. JOHN STUART MILL (who died in May, 1873) with that of Hamilton, in his *Defence of Fundamental Truth.* (New York: Robert Carter & Brothers. 1871); and he opens that able work with these observations:

"If any one competent to offer an opinion on such a subject were asked: Who are the most influential thinkers of Britain, in this the third quarter of the nineteenth century? he would at once and unhesitatingly name Sir William Hamilton and Mr. John Stuart Mill. For the last twenty or thirty years the former has had great authority in Scotland, and considerable power in Oxford and among the Dissenting Colleges of England; has been much admired in the United States of America; has been favorably known in France, and heard of even in Germany, where few British metaphysicians attain a name (p. 7.) . . . . . . His intellectual features stand out very prominently. A discerning eye might have seen from the beginning that his independent and impetuous mind would impel him to follow a course of his own; and that, while probably destined to lead, he would not be led—certainly would not be driven by others. He is evidently moved by a strong (p 9) internal appetency to master all learning and he spent his life in accumulating stores which, after all, fell immeasurably beneath his high ambition. Along with this he has a masterly capacity of retention and power of arrangement. His skill in seizing the opinions of the men of all ages and countries; the ancient Greeks, the philosophic fathers of the Church, the schoolmen, the thinkers of the age of the Revival of Letters,—such as Scaliger, and of the continental metaphysicians from the days of Descartes to about the year 1830, has never been equalled by any British philosopher. His powers of logical analysis, generalization, and distribution are scarcely surpassed by those of Aristotle or Thomas Aquinas or Kant. I have to add, that while he has also superior powers of observation, he has, like most metaphysicians, often overridden and overwhelmed them by logical processes, and hastened by dissection, division, and criticism to construct, prematurely, a completed system of philosophy—such as is to be built up, only as physical systems of science are formed, by the careful inductions of successive inquirers conducting their work through successive ages. In this respect he has imbibed the spirit of Kant, and has not followed the examples set by the more cautious school of Reid and Stewart.

"His manner and style are very decided and very marked. Any man of sharp discernment could easily recognize him at a great distance, and detect him under the most rigid *incognito.* To some ears (p. 11) his nomenclature may sound uncouth and crabbed, being coined out of the Greek or borrowed from the Germans; but these persons forget that chemistry and geology and anatomy have all been obliged to create a new terminology, in order to embody the distinctions which they have established. . . . . His style is never loose, never tedious, never dull; it is always clear, always terse, always masculine, and, at times, it

> it sententious, clinching, and pothegmatic. In reading his works, the reader need entertain no fear of being led into a Scotch mist or being met by a fog from the German Ocean. . . . . He uses a sharp chisel and strikes his hammer with a decided blow, and his ideas commonly stand out before us like a clear cut statue standing firmly on its pedestal between us and a clear sky. (p 12.) Indeed, we might with justice describe his style as not only accurate, but even beautiful in a sense, from its compression, its compactness, its vigor and its point. His thoughts, weighty and solid as metal, are made to shine with a metallic lustre. At the places at which his speculations are the most abstract and his words the baldest, he often surprises us with an apt quotation from an old and forgotten author; or a hidden light is thrown upon the present topic by rays coming from a hundred points. If we have not the flowers or the riches, we are at the same time without the sultriness of a tropical climate; and, in the arctic region to which he carries us, if the atmosphere feels cold at times, it is always healthy and bracing, and the lights in the sky have a bright and scintillating lustre."

A writer who can thus describe the powers of an antagonist, in a philosophic discussion, entitles both his own and those of him whom he opposes to be read with close attention. Such minds should be selected, from among the mass of aspiring authors, as representatives of thought, on both sides of the great theme which we are considering. The multitude of books which are written on such subjects possess more or less merit; but the mind is lost in an attempt to grapple with them all. Some distinctions must necessarily be made in the choice; and the authors whose efforts will receive most of our attention in this argument, are those whom we consider among the foremost thinkers on the different points deemed material in the discussion.

Dr. Charles Hodge, in his "Systematic Theology," likewise devotes much space to the peculiar doctrines advocated by Hamilton. He says:

> "Hamilton infers from all this, that a philosophy of the Absolute is a sheer impossibility; that the Absolute, from its nature and from the necessary limits of human thought, is unknowable; and, consequently, that the stupendous systems of pantheistic atheism which had been erected on the contrary assumption, must fall to the ground. Those systems have already fallen by their own weight. Although only a few years ago they claimed the homage of the intellectual world and boasted of immutability, they have, at the present time, scarcely a living advocate." (*Systematic Theology*, Vol. I., p. 349, *et seq.*)

Until the end of the last century, it was not known, as a scientific fact, that the materials of the globe were absolutely indestructible by physical means. Prior to that time "the effects of combustion and evaporation could hardly suggest any thing else than the annihilation of a certain portion of material;" for it was not yet discovered that "combustion merely transformed the material consumed into other shapes, and that nothing was thereby absolutely lost." (*Chambers' Ency.*, tit. CAUSE, Vol. II., p. 692.) If it was at one time conceivable, does the knowledge we have since acquired prevent our forming the same conception now? We think it does not. The new discovery makes us pause; but it cannot make what was once a conceivable idea, inconceivable. The ancients conceived the world to be flat; and, although we now know it to be round, we can, nevertheless, think of it as flat. In early infancy, we are taught in nursery rhymes; in more advanced childhood, we are taught in fairy tales; in youth, we are taught in fables; in manhood, we are taught in treatises, that, although we cannot conceive a mathematical impossibility to be possible, nor a purely mental contradiction to be a fact, we can, nevertheless, conceive any *physical* impossibility to be possible. We can picture to ourselves the speaking of many kinds of the lower animals; the supernatural appearance and disappearance of genii; and a great variety of other things in opposition to well known natural ways. If such things should now occur they would be called miracles; and it will scarcely be pretended that we cannot conceive the performance of a miracle. One miracle, moreover, is as conceivable as another. To turn water into wine would be opposed to nature; and to create wine from "nothing" would be no more difficult nor inconceivable. To raise the dead to life would be a performance equal to the fresh creation of a living being; and the one is as conceivable as the other. Byron's "Vision of Judgment;" his description of "Universal Darkness;" and his drama of "Cain;" also, Shelley's "Queen Mab;" and many other kindred productions of Infidel writers, all constitute conceptions of miracles no less marvellous than the creation of something from nothing.

Tyndall has given us a Lecture on the "Scientific Use of the Imagination," in which he considers that faculty indispensable to the scientific man.

> "Philosophers may be right in affirming that we cannot transcend experience; but we can at all events carry it a long way from its origin. We can also magnify, diminish, qualify, and combine experiences, so as to render them fit for purposes entirely new We are gifted with the power of imagination—combining what the Germans call Anschauungsgabe and Einbildungskraft—and by this power we can lighten the darkness which surrounds the world of the senses. There are tories even in science who regard imagination as a faculty to be feared and avoided rather than employed. They had observed its action in weak vessels, and were unduly impressed by its disasters. But they might with equal justice point to exploded boilers as an argument against the use of steam. Bounded and conditioned by co-operant Reason, imagination becomes the mightiest instrument of the physical discoverer. Newton's passage from a falling apple to a falling moon was, at the outset, a leap of the imagination. When William Thomson tries to place the ultimate particles of matter between his compass-points, and to apply to them a scale of millimetres, he is powerfully aided by this faculty. And in much that has been recently said about protoplasm and life, we have the outgoings of the imagination guided and controlled by the known analogies of science. In fact, without this power, our knowledge of Nature would be a mere tabulation of coexistences and sequences." (*Fragments of Science*, p. 130.)

Let us now proceed, a little more in detail, with the mental process of annihilating matter, so that the mind may receive the idea by a more gradual and more sharply defined impression. Can we not form a conception of a time when there might have been one star less; then, of a time when there might have been a hundred less; then, of a time when there might have been a thousand less; and, so on, until we finally conceive of a time when there might have been, in the remote past, only one star; then, only one "atom" of matter; and, then, as we fix our minds on that one atom, can we not think of it as gone? Can we not, in our imagination, see it as a minute point, say a point of light; now, just visible; then, extinguished? Would we not naturally say: Just then there was *something* there; now, there is "nothing"?

Again: imagine all heavenly bodies obliterated except this Earth, on which you stand, and the planet Venus; and that you put in exercise a supernatural power, which we will suppose you to possess, of traversing the space between the two planets. When midway, imagine that you looked back and saw the Earth vanish ; and, then, that you turned towards what was, a moment before, the other orb, and found that gone. There you would be, no longer between two planets, but, solitary, isolated, in the midst of—"NOTHING." Nothing "above ;" nothing "below ;" nothing "on either side." Then, imagine the grosser part of your nature, your material body, "exhaled" into this surrounding nothingness, and your mind, the intellectual, the spiritual part of your being, alone remaining, completely divested of its material "tabernacle,"—and it only needs a thought of the *possibility* of matter existing, in antithesis with mind, to give you a conception of there being naught but mind or spirit.

> ——"To know a thing, we must know something different from it We cannot even be conscious of one unvarying impression. Animals that live in total darkness are not conscious of the darkness ; they would become so only in passing into light. It is true that we are constantly in the habit of mentioning a single property, and leaving out of account the related fact but for which the first would have no existence. We may talk of light without alluding to darkness. But it is not the less certain that the alternative circumstance, for the time suppressed, is a real part of the case ; and there are many cases when our meaning cannot be fully imparted without actually quoting the alternative ; and to be logically or formally complete, we ought, at all times to state the two. There are many qualities the very mention of which brings vividly before the mind an opposed couple : as, up, down ; straight, crooked ; desire, aversion, &c. But beyond these cases, it is a tenable assertion that every fact or property recognized by the human mind must be recognized with relation to some other fact or property, its contrast or opposite, but for which as an alternative, the mind would not have that opportunity of *transition* essential to consciousness itself. . . . . [Examples are given.] . . . . Many other examples might be quoted in illustration of the general principle, and also to show that, in the case of ambiguity or uncertainty in the meaning of a positive term, the proper remedy is to demand an explicit statement of the quality, or qualities denied." (*Chambers' Ency.*, tit. IDENTITY, CONTRADICTION, and EXCLUDED MIDDLE, Vol. V., p. 511, 512.)

The same article explains the technical meaning of the several terms mentioned in its title, and concludes with this paragraph :

> "The three principles of Identity, Contradiction, and Excluded Middle, are usually talked of as necessities of the human mind, from which there is no escape. But we have just seen that in the case of the Excluded Middle, there are possible evasions ; and even the principle of contradic-

tion of itself is flatly met by Hegel, who lays it down as a maxim of his philosophy that 'being' and 'not being' are the same, and deduces important inferences therefrom. All this should make us cautious in declaring any formula or any doctrine to be absolutely necessary, or imperative on the human mind" (*Ibid.*, p. 512.)

We must be prepared for any contradiction; even of the most obvious statements. We have seen (*ante*, p. 65) that Hume substantially denied that there was any such thing as cause and effect; and, in our last quotation, that Hegel in effect denied that it is impossible to be and not to be at the same time. We may add Mr. John Stuart Mill, as a third, whose philosophy is discussed by Dr. McCosh, in his Sixth Lecture of the series we have mentioned. The title of that lecture is "Progress of Free Thought in America—Rationalism.—Boston Theology.—Positivism." After giving a historical sketch of the rise and progress of this class of thinkers, he continues:

"In my early Lectures in this series, I met their fundamental principles. It is possible that some have felt that in these I dwelt too much on abstract points about Knowledge and Existence. But I did it of design. I had powerful antagonists to meet, and I had to prepare my weapons with care. I labored to show that the mind begins its intellgent acts with knowledge, a knowledge of things I have no objection to call it a knowledge of phenomena; but by phenomena, in that case, I mean not phenomena apart from things, which is a mere abstraction, but things as appearing. The mind knows relations, but not relations between things unknown, which is impossible, but relations between things known *so far known.* [These are our italics.] Beginning with knowledge, what it reaches, by generalization, is also knowledge, and a knowledge of realities. Beginning with intuitive knowledge, it adds to it by logical processes; and what it gains is also knowledge Its intuitive power is confined within very stringent limits. In particular, it has no *a priori* forms to impose on things. It does not override Experience. It simply gives us a certain knowledge of things Its main office is to enable us to gain experience, and to assure us that the knowledge we thus gain is of real things." (*Christianity and Positivism*, pp. 174, 175)

He then recurs to Mr. Mill's philosophy, and assigns to him, with Hume and Hegel, and their adherents, a place among the Positivists of the present day.

"Mr. Mill, proceeding on a different theory, declares—and his theory requires him to do so—that there may be worlds in which two and two make five, in which parallel lines meet, in which a straight line may return upon itself and enclose a space, and in which there may be effects without a cause. In all this he may be consistent: it is the logical consequence of his theory. And you can meet him only by undermining his theory. This is what I endeavored to do in previous Lectures. On his principles, you cannot prove the existence of God, just as you cannot prove that two and two make four in the planet Jupiter, or that a straight line may not enclose a space in the constellation Orion. For aught that this theory can say to the contrary, it may be an accepted axiom in the universities of the Dog Star that parallel lines may and must meet, if prolonged sufficiently far, and not coming in the way of a little planet called Earth—seen by a telescope of monster power—where a small mortal called man says, in his ignorance, that parallel lines cannot meet. I admit that if we cannot prove that two and two make four, every where, we may also be unable to prove that every effect has a cause. But if, as Aristotle says, a man's mind is organized to discover truth, and truth be not beyond his reach, then I hold that we are entitled to say that, in all times and in every place two and two make four, and a thing effected implies a power of effecting it" (*Ibid.*, pp. 175, 176).

We do not stop to consult the works of Mr. Mill to verify the correctness of Dr. McCosh's statement of the substance of the theory on which the former bases his argument. If the Doctor had referred us to book and page, as we advise all such writers to do, (Preface, *ante.*, p. 17), we would have quoted from Mr. Mill, and not taken the information at "second hand."

We are sure we can conceive an idea of one known thing in antithesis with its opposite ; for example, darkness with light ; a solid with a liquid ; black with white ; an empty jar to a jar filled ; and something with nothing ; in other words, Some Thing with No Thing. These metaphysicians may argue, and their arguments may confuse and even confound us ; yet, we are certain that we can not only think of mind as existing independently of matter ; but that we can dwell on mind as an existence which might have preceded matter. We shall endeavor to make this clear to the apprehension of our Readers in Division VI., where we will undertake to show, as matter of fact, that such an idea is not only conceivable, and probable, but absolutely necessary to a complete understanding of the constituents of the Universe : and that "the ultimate problem of physics," as stated by Tyndall, (*ante.*, p. 75), can never be solved until this fact is established.

If we can conceive the non-existence of matter, we can also conceive that it was brought forth by some cause ; and, as this involves the hypothesis that matter, more or less, or all, was created from "nothing," it would necessarily follow that the power which caused it was intelligent ; that it did not proceed from "development," (whatever that may mean,) or from manifestations of matter, through the agency of physical forces.

Suppose, however, that we should concede that "we can think no real annihilation ;" it will not be denied that we can, at least, ~~from~~ form a conception of one star, now visible, being resolved into its original elements and its atoms scattered abroad ; perchance into what some acute thinkers call "star dust." (See *Christianity and Positivism*, by Dr. McCosh, pp. 19, 20.) Then, we could form this conception of a hundred more stars ; then, of a thousand more ; and, so on, until we finally conceived all matter to be thus resolved and scattered ; dispersed, it may be, so widely, that every atom would be as far from any other atom, as the farthest star we see is separated from us. Such an idea is not inconceivable. There is room enough, in "Extension," to put all these atoms thus widely apart. By any standards of weighing or measuring, known or conceivable, would this condition of Something be any improvement upon Nothing, *unless we couple with it the power to bring these widely separated atoms into physical bodies ?*

If this power exists, at all, it must be Infinite Power ; and, if infinite, it could compress the whole of these atoms into a nutshell ; and then, there would be nothing, outside, except the power that did this. But, we must reserve this conceit for another place, where the argument is more fine spun. (See *post*, p. 141.) We drop it in, here, simply as a suggestion that the idea of annihilation is, at least, susceptible of being brought down to a very small point, a point which, by the most popular process of scientific reasoning, now extant, may be reduced to a microscopic, or, even an imaginary, atom. Infinite compression means a reduction of bulk, by pressure, to a point just this side of annihilation ; an imaginary point, indeed, yet, a conceivable point ; and a point, too, which contains the entire sum of matter in the universe ! We shall see, farther on, (p. 139, *et seq.*,) that such men of science as Pascal and Tyndall have "put these notions into our head." Tyndall has taught us the "Scientific uses of the Imagination," (*ante*, p. 81.) ; and, when he once starts us on a mission to solve the problem of the infinitely small or large, we reduce or enlarge the universe of matter to the "infinitesimal" or the "immense" ; and then conceive a *limit* to each.

If our nearest approach to a conception of annihilation can only amount to this attenuation or compression of matter ; and if we suppose one or the other to have been its original condition before there was any aggregation or expansion of it into "forms" of material bodies, we could, undoubtedly, conceive that these forms were produced by some cause ; and that this cause was an intelligent power.

"There is a very obvious distinction between the substances of things and the forms into which those substances are disposed. In our experience the elementary substances which constitute things are permanent, as oxygen, hydrogen and the like, while the organic and inorganic forms in which they are combined are constantly changing . . . .

Hence, theologians have distinguished between the *creatio prima*, or first creation of the elementary substance of things, *ex nihilo*, and the *creatio secunda*, or second creation or combination of the elements and the formation of things, and their mutual adjustments in the system of the universe." (*Commentary on the Confession of Faith*, by Dr. A. A. Hodge, pp. 115–117. Philadelphia Presbyterian Board of Publication. 1869.)

It will aid us in our efforts to conceive the non-existence of matter, if we find that we can also conceive that the quantity of matter may be limited. But Sir William Hamilton here again interposes and says: "We are unable to think that the quantity of existence, of which the universe is the conceived sum, can be either amplified or diminished." (*Discussions*, p. 619.) This idea, however, like the first we quoted from him, has not found much acceptance even among those who are disposed to adopt his philosophy generally. (*Chambers' Ency.*, tit. CAUSE, Vol. II., p. 691.) His proposition is vague, by reason of his inserting in it a suggestion that the universe is a conceived sum, like a given quantity in mathematics; whereas we think of it as *something* surrounded by "nothing," so to speak; but more correctly, as a totality of matter in the midst of its antithesis, viz., spirit. We think of it as we do when we put light in antithesis with darkness; as a burning lamp whose glimmer is lost in the surrounding gloom; a gloom which we cannot penetrate. If he intends, as we were first impressed, on a cursory reading of the proposition, that our conception of the universe must necessarily be such that we cannot conceive of its quantum of *matter* being increased or diminished, we think he is wrong. For all any man really knows, the Astronomer has already fathomed the extremest depths of the universe of matter; and the Chemist, the ultimate atoms of matter; and to argue, from the present extent of our knowledge, that there is more of it, would be to leave the confines of ascertained fact for the assumptions of the imagination. (See *Fazer's Essays in Philosophy*, p. 170. McCosh on the *Divine Government*, p. 529, 4th English Edition; *Encyclopedia Britannica*, art. METAPHYSICS.)

> . . . . . "The Materialists are as much traitors to science as enemies to religion. They ignore all the facts of Mind. This whole department of cognitions is neglected, in arranging their premises The very first canon of science is thus neglected, which demands that *all* facts be collated as data. . . . . . They find an ultimate matter; only ultimate, however, owing to the limited power of the microscope. . . . . By such unscientific methods, these scientific men, whose names are now so famous, have imposed upon the unlearned and credulous." (Dr. Howard Crosby. Preface to the *Great Problem*, by John R. Leifchild. New York: G. P. Putnam & Sons. 1872.)

We turn again to *Chambers' Encyclopedia :*

> "The words 'Cause,' 'Casualty,' and 'Causation,' although familiar and intelligible, in ordinary speech, have given rise to some of the most subtle questions in philosophy and theology. We shall here advert, briefly, to the chief meaning of these terms; and, in so doing, we shall indicate the disputes which have arisen in connection with them. . . . . [This is done, and the author proceeds.] . . . . . . When, however, we aim at strict accuracy, as in the investigations of science, we must not be content with singling out the one turning event, but must enumerate everything that is necessary to the result. A *scientific* Cause is the full assemblage of *conditions* failing any one of which, the effect would not happen. . . . . . The effect cannot be adequately accounted for, without adverting to every one of those conditions; and it is, therefore, the sum-total of them that is rightly described as the Cause . . . . Taking this complete view of Causation, it is found that every event that happens is the sequel to some previous event, in whose absence it would not have been, but which, being present, it is sure to occur. Between the phenomena existing at any instant, and the phenomena existing at the succeeding instant, there is an invariable order of succession; to certain facts, certain facts always do, and, as we believe, will continue to succeed. The invariable antecedent is termed the Cause; the invariable consequent, the Effect. . . . . . . The physical philosopher—the chemist or physiologist—trusts to the uniformity with which the same Cause yields the same Effect; and if he can find out the true succession, in one instance, he is satisfied that the same succession will always hold. In the physical sciences, therefore, there is no dispute as to the law of Causation itself; the controversies, on that head, occur only in *Metaphysics.* It is made a serious problem by mental philosophers, and also by theologians, to determine how we came by the one suitable belief that we are said to possess, that every event has, and must have a Cause." (*Chambers' Ency.*,tit. Cause, Vol. II., p. 691.)

In an investigation to ascertain a Cause or Causes, we must consider *all* the Effects supposed to be produced; and these effects will, invariably, be found to be some *movement* of mind or matter, or of both combined. When we perceive through our senses, a motion, of any kind, we recognize it as an effect of some cause; and where motion ceases, cause begins, back and still farther back, on and on into the past, until we come, finally, to a First Cause, effecting a *movement* of "something." This process is not only conceivable, but we propose to show, farther on, that it is ascertainable.

We have already stated our conception of diminishing the quantity of matter; and can we not, now, on the other hand, imagine an amplification of it, from the addition of another planet in our solar system, to the filling of all the recognizable realms of matter with a solid body? Although it might ~~include~~ involve a "wreck of worlds," might not such a mass be conceived as the nucleus or "pole star" of a new and larger realm?

Although the mind may be bewildered, is it wholly lost in its efforts to fix limits to matter? We can certainly take in the idea of myriads of stars, visible to the naked eye; then of other myriads, visible only through the telescope; then, of other calculated myriads farther on; then, of other imaginary myriads, beyond all these; and, yet, has not the last conception a limit as well defined as the first? Let the imagination wander whithersoever it will; let it go on grasping myriads upon myriads; and does it not come, at last, to a conception of emptiness farther on? Outside of these forms, is there anything by which space or distance can be recognized? Must it not be one universal and indefinable BEYOND?

Thus we approach the idea of Infinite Extension, which we think we are entitled to entertain and reason about, with the same confidence that we discuss measured intervals, as a yard or a mile. Others maintain that the word "infinite" is only a name for a mere negative. Sir William Hamilton again goes so far as to say that "the Infinite and the Absolute are only the names for two counter imbecilities of the human mind, transmuted into properties of the nature of things—of two subjective negatives converted into objective affirmatives." (*Discussions*, p. 21.) *Chambers' Encyclope-*

dia, which quotes this passage, (vol. V., p. 573), adds these observations :

> " The machinery of infinite quantities plays a large part in the operations of the higher mathematics, and is introduced in order to compare two things naturally incommensurate Thus, in estimating the area of a curved surface, such as a circle, in straight lined spaces, such as square inches, the difficulty was got over by a sort of fiction, namely, by supposing the circle to be inscribed by a right lined figure or polygon, of such a very great number of sides that they coincide, to all intents and purposes, with the curved circumference. The coincidence can never be perfect ; but by imagining the sides to be smaller and smaller, and, consequently, more and more numerous, the difference between the polygon and the circle may become less than any assignable quantity, or, as it may be said, infinitely little; in fact, as good as nothing ; so that the estimate of the area of the one will stand for the estimate of the area of the other." (*Chambers' Ency.*, tit. INFINITE, Vol. V., p. 573.)

Now, if we confine our conceptions to fixing limits to the Universe of Matter, and do not attempt to fathom Beyond, we are, in no sense, endeavoring to solve a difficult problem. It cannot be likened to the " Squaring of the Circle."

> " This is one of the grand problems of antiquity, which, unsolved and probably unsolvable, continue to occupy, even in the present day, the minds of many curious speculators." (*Chambers' Ency*. tit. QUADRATIVE ; tit. QUADRATIVE OF THE CIRCLE ; Vol VIII., pp. 41, 42, 43.)

These are interesting articles. They show almost conclusively that the Circle cannot be " squared " by any process human ingenuity can devise.

The Earth is an actuality. Opposed to the idea of indefinite extension, it is absolute. The universe of matter is likewise an actuality : and that too, when opposed to indefinite extension, is absolute. Matter is the objective, and indefinite extension is the subjective. In this conception, therefore, there is only one objective and one affirmative, viz., the universe of matter ; and only one subjective and one negative, viz., indefinite extension beyond.

It is impossible to conceive the existence of Matter, without limits ; and it is equally impossible to conceive bounds to the Extension Beyond.

Dr. McCosh has something to say in this connection :

> "The imagination can add and add: so far, we have the immense, the indefinite. Thus, in respect of time, it can add millions of years or ages to millions of years and ages In respect of extension, it can add millions and billions and trillions of leagues to millions and billions and trillions of leagues, and then multiply the results by each other, millions of billions of trillions of times. But when it has finished this process, it has not infinity : it has merely immensity. If, when we had gone thus far, time and space ceased, we should still have the finite,—a very wide finite, no doubt, but not the infinite. But it is a law of the mind that, when we have gone thus far, we are necessitated to believe that existence does not stop there, nay, to believe that, to whatever other point we might go, there must be something beyond. Suppose we were carried to such a point, would we not stretch out our hand, confidently believing that there is a space beyond, or that, if our hand be stayed, it must be by body occupying space ? We are necessitated to believe that, after we have gone thus far, we are not at the outer edge of the univere of being,—nay, though we were to multiply this distance by itself, and this by itself ten thousand millions of times, till the imagination felt itself dizzy, still, after we have reached this point, we are constrained to believe that there must be something beyond. This seems to me to be the very law of the mind in reference to infinity: not only can it not set limits to existence, it is constrained to believe that there are no limits. 'If the mind,' says John Foster, 'were to arrive at the solemn ridge of mountains which we may fancy to bound creation, it would eagerly ask: Why no farther ? What is beyond ?'" (*Christianity and Positivism*, pp. 133, 134.)

While we bow before such a profound thinker, we are constrained to confidently affirm : What is Beyond is not matter, nor any physical accompaniment of matter, but the Mind of an Intelligent First Cause. Compute and estimate the sum of matter as you may, there is Intelligence and Spirit beyond. You can conceive a limit to the total of the Material, but cannot fathom what lies "outside" of it. "Mind" encloses the *Universe* of "Matter ;" else, there is no intelligent causation. (See *post*, Division VI.)

Tyndall attempts, in his Lecture on the "Constitution of Nature," to define *Space*. We think of it as distance from one object to another. In this sense it is conceivable. But when we once conceive a totality of the material, we are powerless to conceive the extent of the immaterial which lies Beyond. He begins his Lecture with these observations :

> "We cannot think of space as finite; for, whenever we erect a boundary, we are compelled to think of space as existing beyond that boundary.

Thus by the incessant dissolution of limits we arrive at a more or less adequate idea of the infinity of space. But though compelled to think of space as unbounded, there is no mental necessity to compel us to think of it either as filled or as empty; whether it is filled or empty must be decided by experiment and observation. That it is not entirely void, the starry heavens declare; but the question still remains: Are the stars themselves hung *in vacuo?* Are the vast regions which surround them, and across which their light is propagated, absolutely empty?" (*Fragments of Science*, p. 9.)

He then speaks of *Ether* as "the name given to the interstellar medium," already quoted; but we here reproduce the quotation:

"The notion of this medium must not be considered as a vague or fanciful conception on the part of the scientific man. Of its reality most of them are as convinced as they are of the existence of the sun and moon. The luminiferous ether has definite mechanical properties. It is almost infinitely more attenuated than any known gas; but its properties are those of a solid rather than of a gas. It resembles jelly rather than air. A body thus constituted may have its boundaries; but, although the ether may not be co-extensive with space, we, at all events, know that it extends as far as the most visible stars. In fact, it is the vehicle of their light, and without it they could not be seen. This all-pervading substance takes up their molecular tremors, and conveys them, with inconceivable rapidity to our organs of vision. It is the transported shiver of bodies, countless millions of miles distant, which translates itself, in human consciousness, into the splendor of the firmament at night." (*Fragments of Science*, p. 10.)

He proceeds:

"If the ether have a boundary, masses of ponderable matter might be conceived to exist beyond it, but they could emit no light. Beyond the ether, dark suns might burn there, under proper conditions; combustion might be carried on; fuel might consume unseen; and metals be heated to fusion in invisible fires. (*Ibid*, p 10.)

These words "proper conditions" are like the "certain conditions" employed by Huxley, concerning which Dr. McCosh says: "We must not let these words slip in so quietly;" and then proceeds to show that they are unscientifically vague and unmeaning. They are the subterfuges of men of science when bothered. (See *Christianity and Positivism,* p. 22. See, also, Division VI., where we dwell on Matter and Physical Forces.) Tyndall has been a great help in our investigations. We adopt many of his facts; but we deduce from them, in some instances, different conclusions. We class him among our very best witnesses on questions of science.

"A body, moreover, once heated there, would continue forever heated;

a sun or planet, once molten, would continue forever molten. For, the loss of heat being simply the abstraction of molecular motion by the ether, where this medium is absent no cooling could occur. A sentient being, on approaching a heated body in this region, would be conscious of no augmentation of temperature. The gradations of warmth dependent on the laws of radiation would not exist, and actual contact would first reveal the heat of an extra ethereal sun." (*Ibid*, p. 10.)

He then gives an illustration, which see; and proceeds:

> "As far as our knowledge of space extends, we are to conceive it as the holder of the luminiferous ether, through which are interspersed, at enormous distances apart, the ponderous nuclei of the stars." (*Ibid*, p. 11.)

We think he has not here exercised his usual caution in his use of the term "space." Let us hear him further:

> "Having thus obtained a general view of the present condition of space, and of the bodies contained in it, we may inquire whether things were so created at the beginning. Was space furnished at once, by the fiat of Omnipotence, with these burning orbs? To this question the man of science, if he confine himself within his own limits, will give no answer, though it must be remarked that in the formation of an opinion he has better materials to guide him than any body else. He can clearly show, however, that the present state of things *may* be derivative. He can even assign reasons which render probable its derivative origin—that it was not originally what it now is." (*Ibid*, pp. 11, 12.)

In all this, we find no reasoning calculated to alter or impair our conclusion that space can only be measured by a conception of the presence of matter, and that, outside of matter and space, there is something immaterial and, consequently, supernatural. This conclusion is inevitable, or the law of cause and effect, carried to its ultimate limits, must be entirely ignored.

Assuming that we can conceive all matter to have had a beginning, we cannot conceive this of a preëxisting power. For, when we assume nothing to be in existence but this power, we must likewise assume an absence of Time; because time, like space, can only be measured by matter. Time cannot be conceived to exist without the presence of matter; nor without *forms* of matter. If the atoms of matter were primarily dispersed or diffused as we have described, there could not have been, during that condition of matter, any such thing as time. It was the creation of matter, then, or the formation of it into material bodies, that constituted the beginning of time. (See *post*, Division VI.)

If, therefore, there was behind matter, or forms of matter, no time; and if a creative or formative power existed before time began, this power had no beginning; it must have been "from all eternity;" for it is proper to say: What is not of Time is of Eternity. Time is the antithesis of Eternity. If the "work of creation" was begun yesterday, what preceded yesterday was eternity; and what *immediately* (so to speak) preceded yesterday, was eternity just the same. Until yesterday there was no beginning of years. What are now flippantly rolled from the tongue, as "countless ages" and "immense periods," then and not till then had their commencement.

Suppose one of the most minute of living organisms, discernable to man, only under a microscope of the highest power, should possess mental faculties akin to those ascribed to man; the range of thought of this animate atom would not necessarily be limited to the little drop of liquid which constitutes its world. Its mind would be capable of conceiving a universe, as extended as we can conceive, and it would, ultimately, find, as we do, Indefinite Extension, BEYOND. A conceived sum of totality of matter by man, is to Infinite Intelligence, (if there be one,) somewhat, as this living atom is to us. The adult man, six feet in height, is no more an arbitrary or necessary standard of size to living organisms, in the Divine Government, (if there be one,) than the smallest atom revealed to man under the microscope or imagined by him in the Atomic Theory, is a standard of bulk to human intelligence. (See *post*, Division VI.) The moment man reaches a point where he cannot conceive further divisibility to an atom, he must stop; but the Infinite, (if there be such an one,) takes up this atom at that very point and divides it still further. Our finite conception of the Infinite is necessarily limited; but our idea of an Infinite presupposes a conception, in the Infinite, beyond our comprehension. We must stop somewhere; and the Infinite takes up the conception where we are obliged to drop it.

On the other hand, suppose this living atom should be reduced, in its reasoning faculties, to a degree compared, as to bulk, with man. Then, this living atom would necessarily be confined, in its conceptions of the universe, to the liquid drop in which it dwells and to its visible or tangible surroundings, which, to it, might not go beyond a cubic inch. Still, its conception of there being *something* Beyond would be as perfect as the conception of what man is able to form as to that which lies beyond the confines of his conception of a totality of matter. There is always, to man, something farther on; and so, with the smallest organism, there is something *outside* of what it is capable of conceiving; but, to it, as to man, there is an ultimate conception of Intelligence, and not of matter, indefinitely extended Beyond. To either the higher or the lower of these organisms, man or monad, there is a conceivable limit to matter, and an inconceivable extension to Intelligence, outside of matter. In either case, there would be a limit to matter; and, in either case, no limit to Intelligence.

In a subsequent Chapter, (Division VI., Part II Subdivision 9,) in which we will dwell, at length, on the "Reasoning Power of the Lower Animals," this idea will be more fully treated. "Mind in Nature" is not confined to man. We shall attempt to show that Intelligence, if not moral responsibility, is part of the nature of all animal organisms.

In either case, the limit of intelligence, whether in man, or in the minutest living organism, is confined to the measure furnished by time and space, which limit the idea of the temporal and limitable, while the idea of the eternal and illimitable immediately precedes it without power to fix its duration or extent. From "the beginning," that is, from the commencement of *motion*, either to mind or matter, what may have been designated as Now presupposes what may be designated as Before; and what may have been designated as Here, presupposes what may be designated as Beyond.

4. NAUGHT BUT THE CONCEIVABLE IS SUSCEPTIBLE OF PROOF.

When a thing or an idea is conceivable, it is almost superfluous to say that it does not follow, from that circumstance alone, that it is a fact or a truth. And this reasoning applies as well to our own conceptions as to those of the Doubter. Nothing is gained, on either side, by such reflections, except this : We are made to understand that if we cannot conceive the non-existence of matter, we cannot comprehend the idea of its creation ; and if we cannot conceive that matter was a pure creation, simply " spoken " into existence by a Supreme Intelligence, then what is popularly known as Natural Theology would be an incomprehensible study.

We see this. Sir William Hamilton saw it. He displayed great ability when he selected this as the ground on which the decisive intellectual battle was to be fought out. If there is a defective link in the chain, it is to be found here. If we are not convinced that we can conceive the non-existence of matter, the whole argument is weak ; for, what cannot be conceived is not susceptible of proof. Our own mind is clear that we can conceive it ; and ye who cannot, from our reasoning, form such a conception, should ☞ HALT HERE ☜ and seek to clear this matter up in your own way, before you proceed any further. But let us hope that we have made it clear that you can. We must assume that we have, to some minds at least, or abandon the argument, and leave all to accept it, as most Christian Churches do, on Faith alone ; because the Bible so teaches in many ~~paragraphs~~ passages like these :

> " Through faith we understand that the worlds were framed by the word of GOD ; so that things which are seen were not made of things

which do appear." (*Heb.* xi. 3.) "All things were made by him; and without him was not anything made that was made." (*John* i. 3.) Of him, and through him, and to him are all things." (*Rom.* xi. 36.)

Let it be understood that we do not give these quotations as *proofs* to be accepted by the Doubter. They are thrown in here, out of respect for that large class of persons who do not require any thing more than what they unhesitatingly accept as a sufficient written revelation of God's existence and of his acts. We give them, because we are not willing to hazard, with such minds, an alternative which they cannot accept as conclusive. Be it far from us that we should leave them without a ready solution of what to them may be a difficulty, while others may be able to perceive it clearly.

In another connection we will endeavor to show that it is as much an absolute impossibility to conceive that matter was co-eternal with God, if there is a God, as it is to conceive a thing to be and not to be at the same time. (See *post*, Div. I., Sub. 10.) Such a mental contradiction cannot be reconciled by any process of reasoning, whatever, however subtle it may be. The bare statement of such a proposition at once carries its own ~~reflection~~ refutation upon its very face.

"If God be not the Creator of substance *ex nihilo*, as well as the former of worlds and of things, he cannot be absolutely sovereign. . . . . . On every hand he would be limited and conditioned by the self existent qualities of pre-existent substance, and their endless consequences." (*Commentary on Confession of Faith*, by Dr. A. A. Hodge, p. 116.)

5. RULES OF EVIDENCE.

We have, thus far, only *hypothetically* stated the proposition that all matter had a beginning ; that it was created by a preëxisting power ; and that this power was intelligent. And the question now arises :—Can this idea be rescued from the domain of conjecture, and established as Fact.

To establish a fact is to prove it ; and Proof is the result of Evidence.

All theories are built up on Evidence. It is employed in every science. Every logical conclusion is deduced from facts ; and the accuracy of results, in an investigation, depends entirely on the *competency* and the *sufficiency* of the evidence by which the facts are sought to be established.

There are certain well recognized rules regulating the competency and sufficiency of evidence to which it will be well to advert at the outset. These rules, resulting from long experience, and perfected by reason, have been adopted in Courts of Justice ; are generally received as reliable, and cover a wide range of investigation ; not only pertaining, directly, to mankind, in their dealings with and conduct towards their fellows ; but, indirectly, to all phenomena in nature, and to all things embraced in the sciences and the arts.

Many able treatises on the " Law of Evidence" have been written by eminent jurists, among whom it is sufficient to refer to Mr. Greenleaf, whose work may be found in almost any law library. (" A Treatise on the Law of Evidence, by Simon Greenleaf, LL. D., Emeritus Professor of Law, in Harvard University, in 3 volumes. Boston : Charles C. Little & James Brown," several editions. 1850.) Let us consult such authors, to the end that we may invoke no rules of evidence not approved by mankind, at large, in all civilized nations, where courts of justice are established.

If the Doubter should be charged with a violation of law, he would, when innocent, object to any evidence not sanctioned by these rules. If he sought redress for any wrong committed against his character, person or property, he would deem it unjust not to allow these rules to control. He is content to be governed by them, not from custom, nor simply because they are the "law of the land," but because his best judgment tells him that they are so far the "perfection of reason" that he can devise nothing better.

When evidence is employed to prove a fact, the fact proven is established, either by

1st. Demonstration,

2d. Intuition, or

3rd. Circumstances.

Demonstration is the highest degree of proof; and excludes all possibility of error. None but Mathematical truth is capable of being thus reduced to absolute certainty. (*Greenleaf*, § 1.) Two and two make four; and nothing can make them more nor less; not even a miracle.

In a foot note to § 1, Mr. Greenleaf refers to "Gambier's Guide to the Study of Moral Evidence," p. 121:

> "Even of Mathematical truths, this writer justly remarks, that though capable of demonstration, they are admitted by most men solely on the moral evidence of general notoriety. For most men are neither able themselves to understand mathematical demonstrations, nor have they, ordinarily, for their truth, the testimony of those who do understand them; but, finding them generally believed in the world, they also believe them. Their belief is afterwards confirmed by experience; for, whenever there is occasion to apply them, they are found to lead to just conclusions." (*Ib.*, 196.)

Intuition discovers the truth, immediately, without the intervention of argument or reasoning. The mind perceives the agreement or disagreement of two ideas, or the truth of things, the moment they are presented. If the fact supposed to be intuitively known is not disputed nor doubted, it is established. But if its existence admits of argument, then it must be sustained or disproved by " Circumstances." (See *Webster's Dictionary.* INTUITION. INTUITIVE.)

" There are certain truths which the mind perceives to be true, immediately, without proof or testimony. Such are the axioms of geometry No man needs to have it proved to him that the part of a thing is less than the whole ; or that a straight line is the shortest distance between two given points. It is an intuitive truth that " nothing" cannot be a cause ; that every effect must have a cause. This conviction is not founded on experience ; because experience is, of necessity, limited. And the experience is not merely that an effect which we or other men have observed has had a cause ; but that, in the nature of things, there can be no effect without an adequate cause. This conviction is said to be an innate truth, not because the child is born with it, so that it is included in its infant consciousness, nor because the abstract principle is laid up in the mind, but simply because such is the nature of the mind, that it cannot but see these things to be true. As we are born with the sense of touch and sight, and take cognizance of their appropriate objects as soon as they are presented ; so we are born with the intellectual faculty of perceiving those primary truths as soon as they are presented." (*Systematic Theology*, by Dr. Charles Hodge, Vol. I, p. 192.)

Circumstances depend on moral evidence alone ; by which is meant all evidence, whatever, not obtained either from demonstration or intuition. (*Greenleaf*, § 1.)

In either case, the object of the proof is to convince us ; so that our minds will be put at rest concerning the particular fact sought to be established. If susceptible of Mathematical Demonstration, the conviction is absolute, the result is certain. If, on the other hand, we are convinced by Intuition, or even from Circumstances, we will be none the less satisfied. The conviction will put our minds at rest, and we will be prepared to accept the fact as *established ;* the same in the one case, as we would be in either of the others.

" In the ordinary affairs of life we do not require demonstrative evidence ; for, it is not consistent with the nature of the subject ; and to insist upon it would be unreasonable and absurd. The most that can be said of such things, is, that there is no reasonable doubt concerning them. The true question, therefore, in investigations of fact, is not, whether it is possible the testimony may be false ; but whether there is *sufficient probability* of its truth ; that is, whether the facts are shown by competent and satisfactory evidence." (*Greenleaf*, § 1.)

Let us illustrate this, by the statement of an "extreme case":—Suppose you should enclose a plot of ground with a wall of solid masonry, 20 feet high and 2 feet thick; built upon a natural foundation of granite rock underlying the whole plot. Suppose you covered the enclosure with iron bars 2 inches in diameter and only 2 inches apart, with their ends extending through the walls and firmly embedded in the masonry, 5 feet from the top; suppose the sides, the bottom and the top were all without door or other opening; suppose the ingenuity of man could not think of any possible way by which a horse, with his well known habits and powers, could enter this enclosure; suppose you and many other sane persons, generally reputed to be credible, upon examining the enclosure over night, saw the ground both inside and outside smooth and free from tracks, with a light covering of snow lately fallen; and then, suppose, on the morning of the day following, you all found the snow and soil, inside, trampled, as if by hoofs of horses, and containing what appeared to be other unmistakeable signs of the recent presence of horses there; while, outside, there were no tracks nor marks of either man or beast, except the tracks made by yourselves, when you looked inside, the night before:—Would the apparent impossibility of horses entering, or of their leaving after being once inside, deter you from entertaining the belief that horses, although then absent, had actually been there? Conjure the seeming physical impossibility into any phase the surrounding circumstances might suggest, and you still have the incontestable *fact*, that animals resembling horses have really been within the enclosure. That you are wholly unable to account for what is there perfectly evident, has nothing to do with it. The presence upon the ground of the foot prints, and "droppings," and, upon the walls, of the hair and frothy saliva, among other signs less noticeable but none the less sure, all contribute evidence sufficiently satisfactory to your mind to prevent you from arriving at any other conclusion than that horses have been there. How they got in or out is another inquiry; and, your being unable to answer it, does not alter the fact of their presence, inside, during the preceding night.

Again :—Suppose a score of witnesses should swear in a Trial at Law that they saw a man, on the side walk, in a city, let go a 100 pound iron ball, and that it struck and killed a man who was leaning over the parapet of an adjoining building, 50 feet high, you would say the whole 20 were deceived, deluded or perjured ; and you would so judge because they, severally and collectively, ignored or defied the law of gravitation ; for you would know, by this well known law, that the ball when let go would descend to the earth and not ascend to the parapet of the building, whether the holder simply let it go or endeavored to project it that height. So, when any man attempts to swear to an alleged fact contrary to what you understand to be a Law of Nature, or contrary to any ascertained scientific fact, you unhestatingly brand him as a liar or lunatic. Even the unlettered "rustic" has sufficient intelligence to pronounce the same judgment. And, yet, some one might be found who would disagree with both you and the rustic, and undertake to show that it was possible for the ball thus let go, to ascend and strike the fatal blow. An entire Treatise might be written to prove how it was possible, followed by arguments of its probability, and, still further, of its certainty. For example : "The 20 men swear they saw the ball let go by the man below ; saw it ascend and strike the man above ; and saw him fall. The man is found dead on the roof with a contused wound resembling that which might be reasonably expected to result from such a blow by such a ball. The ball is found upon the roof, immediately after the fatal blow, stained with blood ; and other circumstances, such as the relative positions of the ball and the man killed, and the appearance of both, corroborate the theory that this blow was the cause of the death. The law of gravitation might have been overcome by a meteoric stone passing, unperceived, directly over the man on the roof, and possessing magnetic power sufficient to draw the ball up with great force, at the instant it was let go by the man on the sidewalk." And this theory might be elaborated by ingenious processes of reasoning until doubts arose as to whether the death had really been caused, as at first supposed, by a blow from a bludgeon found in the hands of a living person on the roof when the dead man was there first discovered. The living man with the bludgeon stained with blood, and the ball stained in like manner, accompanied by the 20 oaths that it was, a moment before, in the hands of a man on the sidewalk, would furnish "circumstances," *pro* and *con*, from which it must be judged whether the blow was given by ball or bludgeon. On the presentation of such an alternative we would, in the absence of any other proofs, say that the death was caused by the bludgeon,—because this would be more probable than that the law of gravitation was overcome by the cause assigned. The fact that the ball was found on the roof, stained with blood, and that 20 witnesses swore they saw it let go and ascend as described, would find its solution in the supposition that the ball reached the roof and was thus stained by some other means, and that the 20 witnesses were either false or insane. The law of gravitation would prevail, and the meteoric theory would be set aside ; and this, too, whether a motive, sane or insane, in the man who held the bludgeon, could be found or not.

"By *competent* evidence, is meant that which the very nature of the thing to be proved requires, as the fit and appropriate proof in the particular case." (*Greenleaf*, § 2.)

"By *satisfactory* evidence, which is sometimes called *sufficient* evidence, is intended that amount of proof, which ordinarily satisfies an unprejudiced mind, beyond reasonable doubt. The circumstances which will amount to this degree of proof can never be previously defined ; the only legal test to which they are susceptible, is their sufficiency to satisfy the conscience of a common man ; and so to convince him, that he would venture to act upon that conviction, in matters of the highest concern and importance to his own interest." (*Ibid.*)

"It is assumed, on the authority of approved writers, that all that men know is referable, in a philosophical view, to perception and reflection. But, in fact, the knowledge acquired by an individual, through his own perception and reflection, is but a small part of what he possesses ; much of what we are content to regard and act upon as knowledge, having been acquired through the perception of others. It is not easy to conceive .

. . . . . [that man is constituted] to believe only upon his own personal experience; since, in that case, the world could neither be governed nor improved; and society must remain in the state in which it was left by the first generation of men. On the contrary, during the period of childhood, we believe, implicitly, almost all that is told us; and thus are furnished with information, which we could not otherwise obtain; but which is necessary, at the time, for our present protection, or as the means of future improvement. This disposition to believe, may be termed instinctive. At an early period, however, we begin to find that, of the things told us, some are not true: and thus our implicit reliance on the testimony of others is weakened; first, in regard to particular things, in which we have been deceived; then, in regard to persons, whose falsehood we have detected; and, as these instances multiply upon us, we gradually become more and more distrustful of such statements, and learn, by experience, the necessity of testing them by certain rules. Thus, as our ability to obtain knowledge, by other means, increases, our instinctive reliance on testimony diminishes, by yielding to a more rational belief." (*Ib.* §7.)

"It is true, that in receiving the knowledge of facts from the testimony of others, we are much influenced by their accordance with facts previously known or believed; and this constitutes what is termed their probability. Statements, thus probable, are received upon evidence much less cogent than we require for the belief of those which do not accord with our previous knowledge. But while these statements are more readily received, and justly relied upon, we should beware of unduly distrusting all others. While unbounded credulity is the attribute of weak minds, which seldom think or reason at all, ... unlimited scepticism belongs only to those who make their own knowledge and observation the exclusive standard of probability. Thus, the King of Siam rejected the testimony of the Dutch ambassador, that, in his country, water was sometimes congealed into a solid mass; for it was utterly contrary to his own experience." (*Ib.* §8.)

From the nature of the subject the existence of a Great First Cause cannot be demonstrated by the use of mathematics; nor need we claim that it can be certainly known by Intuition, although this is confidently asserted by very many. (See *Outlines of Theology*, by Dr. A. A. Hodge, for the celebrated argument of Dr. Adam Clark, p. ; also, M. Cousin's *Elements of Psychology*, p. 374.)

It follows, then, that the only kind of evidence, by which we may properly seek to *prove* it as matter of fact, is Circumstantial.

Farther on, in appropriate places, we will add to these introductory observations other Rules of Evidence, together with some Legal Maxims; and we will point out their application, whenever, throughout the work, we have occasion to invoke the authority of any of them.

6. SIMPLIFICATION OF PROOFS.

The principal arguments by which the Being of a God, as a self-existent and intelligent First Cause, is sought to be maintained, independently of the Bible, may be thus stated :

1. " The *à priori* argument, which seeks to demonstrate the being of a God from certain first principles involved in the essential laws of human intelligence.

2. " The *cosmological* argument, or that one which proceeds after the *à posteriori* fashion, from the present existence of the world as an effect, to the necessary existence of some ultimate and eternal first cause.

3. " The *teleological* argument, or that argument which, from the evidence of design in the creation, seeks to establish the fact, that the great self-existent first cause of all things is an intelligent and voluntary personal spirit.

4. " The *moral* argument, or that argument which, from a consideration of the phenomena of conscience in the human heart, seeks to establish the fact that the self-existent Creator is also the righteous moral governor of the world. This argument includes the consideradion of the universal feeling of dependence common to all men, which, together with conscience, constitutes the religious sentiment.

5. " The *historical* argument, which includes—(1.) The evident providential presence of God in the history of the human race. (2.) The evidence afforded by history that the human race is not eternal ; and, therefore, not an infinite succession of individuals ; but created. (3.) The universal consent of all men to the fact of his existence." (*Outlines of Theology*, by Dr. Archibald Alexander Hodge, p. 15. New York : Carter & Brothers, 1861.)

Opposed to these arguments are those which maintain, under different forms, the view that what is called " matter " is itself eternal. They are thus classified :—

1. *Atheists*, who deny the existence of a God or Supreme intelligent Being. (*Webster's Dictionary.*)

2. *Pantheists*, who affirm that the Universe is God ; that all things, taken together as a whole, constitute an absolute and all universal being. (*Ib.*)

3. *Materialists*, who deny the existence of spiritual substances, and maintain that what is called the soul of man, is the result of a particular organization of matter in the body. (*Ib.*)

4. *Idealists*, who hold to the theory that makes every thing to consist in "ideas," (so called,) and deny the actual existence of what appear to be material bodies. (*Ib.*)

5. *Positivists*, or followers of Auguste Comte, a Frenchman, (born about 1795, died in 1857,) who is the founder of what is known as the "Positive Philosophy," and whose admirers claim that he is the Bacon of the 19th century. The central or governing doctrine of this school may be thus briefly stated: "The race, (like the individual,) necessarily passes through three intellectual stages—1. The *theological*, in which a supernatural origin is sought for all phenomena, and the *Deus ex machina* is the only explanation of events; 2. The *metaphysical*, in which the *sensuously* supernatural is set aside as incredible, and an effort is made to demonstrate the existence of 'abstract forces or entities supposed to inhere in various substances, and capable of engendering phenomena.' 3. The *positive*, in which the mind affirms the futility both of theological and metaphysical inquiries, abandons all vain search after the *causes* and *essences* of things, 'restricts itself to the observation and classification of phenomena, and to the discovery of the invariable relations of succession and similitude which things bear to each other; in a word, to the discovery of the *laws* of phenomena.'" (*Chambers' Ency.*, tit. COMTE. Vol. III., p. 168.)

"This last is the stage at which Comte conceives Europe to have arrived. Theology and metaphysics are alleged to be in their dotage, and all the anarchy of modern life to arise from the presence of these disturbing elements. To deliver us from their hurtful influence, Comte employs the principles of positivism to organize a new social doctrine, which shall embrace the entire wants of man as an intellectual and emotional being. Comte thus aims at not only being the founder of a new philosophy, but also of a new religion, and has even assumed the title of *Fondateur de la Religion de l'Humanité*. His views, which are very original and comprehensive have excited much attention among thinkers in France, England and Germany, and obtained not a few ardent adherents." (*Ibid.*)

We here reproduce what Dr. McCosh says of M. Comte :—

> The whole school which I am opposing are defenders of the Doctrine of Nescience. It is called Nescience, in so far as it holds that man knows nothing, and can know nothing of the nature of things ; and Nihilism, inasmuch as it is averred that there can be nothing known. It is acknowledged that we are cognizant of appearances ; but, then, [that] we do not and can never know whether these correspond to realities. These doctrines are commonly attributed to M. Comte." (*Christianity and Positivism*, by Dr. McCosh, p. 116.)

Dr. Charles Hodge, in his *Systematic Theology*, gives, with much detail and clearness, the technical divisions of the argument, on both sides, as it now stands. He treats Theology as a Science ; and, in a chapter on Method, (p. 1,) he shows that there is a Theological, a Speculative, a Mystical, and an Inductive method. He explains each with consummate ability ; but, for reasons which will presently appear, we will omit further reference to these several methods, for the present. Meantime, some readers may, with profit, immediately refer to that able treatise.

It is not essential that the outlines of these arguments, *pro* and *con*, should be given with more technical accuracy, nor with greater fulness. Our object in stating them is for the purpose of fixing the mind, for the moment, on the general subject, by a rapid glance over the field occupied in the discussion by most theologians, metaphysicians and speculative philosophers ; and not with any intent to review them in detail. Technical nomenclature and numerous subdivisions, while suited, perhaps, to scientific or metaphysical treatises, are calculated, in a popular discussion, to compel the mind to follow the argument so closely, that it becomes wearied ; and there is danger that the " thread " and the consequent effect of the reasoning may be lost. We are, at this stage of our argument, only seeking to prove, by competent and satisfactory evidence, our initial point, viz. : the naked proposition that matter had a beginning ; that it was created by a preëxisting power. Believing that one comprehensive and *sufficient* argument is enough, we will, without giving it a name, select that one which we deem conclusive ; and not encumber ourselves with others, which, although of great strength, may tend to lessen our apprehension of the one we have chosen.

The fundamental question, the Initial Inquiry, at the bottom of all these arguments is :—DID MATTER HAVE A BEGINNING ? For, if it can be shown that matter was caused, then all arguments opposed to a self-existing First Cause, are overthrown.

7. Affirmative Proofs.

Proofs of the being of a God are found in two great principles underlying the Material Universe and all Physical Science, viz. :

1. Order ; that is, "Harmony in Nature."
2. Adaptation ; that is, "Every thing Serves an End." (See *post* Division VI.)

These are exhibited in the structure of all organic or living things ; every plant and every animal. They also accompany inorganic or lifeless objects. They meet in the existence and combination of the elements, and in the formation of every mineral substance. The animal, vegetable, mineral and gasseous kingdoms, whether considered separately or collectively, display order in their arrangement and manifestations, and are adapted to certain ends. (See *Typical Forms and Special Ends of Creation,* By Dr. James McCosh, assisted by Dr. George Dickie, p. 1. New York : Robert Carter and Brothers. 1867.)

Does any one doubt these statements ? Modern science, based on the investigations of the Chemist, the Astronomer, the Geologist, the Anatomist, the Microscopist and the Naturalist, whether Infidel or Believer, all unite, without exception, so far as we can learn, in testifying that what we call nature displays, in ☞ ALL ☜ its details, a well defined order, and an adaptation to particular ends.

The only mooted "exceptions" brought under discussion are certain undeveloped members in animals and animal organisms designated "rudimentary parts." Were these more numerous and noticeable ; and were it impossible to find in them any reference to the principle of Adaptation, which we deny, we still have in their growth and structure the principle of Order conspicuously developed. In any view the exceptions if they exist are of the character of those which are said to "prove the rule."

Those who dispute the *universality* of Order and Adaptation in Nature, are bound to point out some particular or particulars in which these qualities are not observable ; and they must meet this issue squarely ; not by a profusion of words ; but by a precise specification of definite instances. In the present advancement of Science, it may be confidently asserted that not a single instance can be specified.

To enforce this view, more strongly, we will quote a little of what has been said on this branch of the subject, by a few representative men, whose opinions, so far as they relate to the isolated fact of there being harmony in all the forms and manifestations of matter, are shared by all writers, on this and kindred branches, from Plato, who flourished about 2300 years ago, down to the great minds of the present day.

> "There are some things of which Courts of Justice will, of themselves, take notice without proof. . . . . It is not necessary to prove things which must have happened according to the ordinary course of nature ; nor to prove the course of time, or of the heavenly bodies ; nor, the ordinary public fasts and festivals ; nor the coincidence of days of the week with days of the month ; nor, the meaning of words in the vernacular language ; nor, the legal weights and measures ; nor, any matter of public history, affecting the whole people. . . . . In fine, Courts will generally, take notice of whatever ought to be generally known within the limits of their jurisdiction. In all these, and the like cases, where the memory of the Judge is at fault, he resorts to such documents [or books] of reference as may be at hand, and he may deem worthy of confidence." (*Greenleaf's Evidence*, § 6.)

In a Court of Justice a litigant would be allowed to refer to published volumes containing the researches and observations of learned men on any subject.

In our citations from such authors we do not claim that their testimony proves any fact in dispute ; but that it simply tends to corroborate what we here affirm, viz., that throughout Nature, Order and Adaptation are *universal.*

Humboldt writes:

> "When man began to interrogate nature; and not content with observing, learned to evoke phenomena under definite conditions; when once he sought to collect and record FACTS, in order that the fruit of his labors might aid investigation after his own brief existence had passed away, the *Philosophy of Nature* cast aside the vague and poetic in which she had been enveloped from her origin; and, having assumed a severer aspect, she now weighs the value of observations, and substitutes induction and reasoning for conjecture and assumption. . . . . . Nature, considered *rationally*, that is to say, submitted to the process of thought, is a unity in the diversity of phenomena; a harmony, blending together all created things, however dissimilar in form and attributes; one great whole, animated by the breath of life. The most important result of a rational inquiry into nature is, therefore, to establish the unity and harmony of this stupendous mass of force and matter; to determine, with impartial justice, what is due to the discoveries of the past, and to those of the present; and to analyze the individual parts of natural phenomena, without succumbing beneath the weight of the whole. Thus, and thus alone, is it permitted to man, while mindful of the high destiny of his race, to comprehend nature, to lift the veil that shrouds her phenomena; and, as it were, submit the results of observation to the test of reason and intellect" (*Cosmos*, p. 24.)

Lyell, a master mind among Geologists, while denying the history of "Creation" contained in the Bible, speaks thus concerning order and adaptation:

> "The proofs now accumulated of the close analogy between extinct and recent species are such as to leave no doubt on the mind that the same harmony of parts and beauty of contrivance which we admire in the living creation has equally characterized the organic world at remote periods. Thus, as we increase our knowledge of the inexhaustible variety displayed in living nature, and admire the infinite wisdom and power which it displays, our admiration is multiplied by the reflection:—That it is only the *last* of a great series of preëxisting creations, of which we cannot estimate the number or limit." (*Elements of Geology*, p. 781.)

Darwin, in his "Descent of Man," observes:

> "There is no evidence that man was aboriginally endowed with the ennobling belief in the existence of an Omnipotent God. . . . . . This question is of course, wholly distinct from that higher one, whether there exists a Creator and Ruler of the Universe; and this has been answered in the *affirmative* by the highest intellects that have ever lived." (*Descent of Man*, Vol. I., p. 65.)

Huxley says:

> "The question of questions for mankind—the problem which underlies all others, and is more deeply interesting than any other—is the ascertainment of the place which Man occupies in Nature and of his relations to the Universe of things." (*Man's place in Nature*, p. 71.)

Both Darwin and Huxley undertake to show that a higher species descended from a lower; that even man may have descended from an ape; and in these efforts they call to their aid the very laws of nature which we invoke when we seek to establish the existence of universal order and adaptation.

Tyndall thus adds his testimony:

> "Throughout the processes of Nature there is interdependence and harmony, and the main value of our science, considered as a mental discipline, consists in the tracing of this interdependence and the demonstration of this harmony. The outward and visible phenomena are with us the correctors of the intellect; and our science would not be worthy of its name and fame if it halted at facts, however practically useful, and neglected the laws which accompany and rule phenomena." (*Fragments of Science*, p. 227.)

This author says, in another part of the same book:—

> "We live upon a ball of matter eight thousand miles in diameter, swathed by an atmosphere of unknown height. This ball has been molten by heat, chilled to a solid, and sculptured by water: it is made up of substances possessing distinctive properties and modes of action, properties which have an immediate bearing upon the continuance of man in health, and on his recovery from disease, on which moreover depend all the arts of industrial life. These properties and modes of action offer problems to the intellect, some profitable to the child, and others sufficient to tax the highest powers of the philosopher. Our native sphere turns on its axis and revolves in space. It is one of a band which do the same. It is illuminated by a sun which, though nearly a hundred millions of miles distant, can be brought virtually into our closets and there subjected to examination. It has its winds and clouds, its rain and frost, its light, heat, sound, electricity and magnetism. And it has its vast kingdoms of animals and vegetables. To a most amazing extent the human mind has conquered these things, and revealed the logic which runs through them. Were they facts only without logical relationship, science might, as a means of discipline, suffer in comparison with language. But the whole body of phenomena is instinct with law; the facts are hung on principles, and the value of physical science as a means of discipline consists in the motion of the intellect, both inductively and deductively, along the lines of law marked out by phenomena. As regards that discipline to which I have already referred as derivable from the study of languages—that, and more, are involved in the study of physical science. Indeed, I believe it would be possible so to limit and arrange the study of a portion of physics as to render the mental exercise involved in it almost qualitatively the same as that involved in the unravelling of a language. (From an "Address to Students." *Fragments of Science*, pp. 100, 101.)

Dr. McCosh, whose works are among the most recent, deals with this subject so fully and with such directness; and he brings forward such an array of facts, that even the superficial reader cannot fail to find in them abundant evidence, to sustain the point we are now considering. We will, in a condensed form, give some of his general and introductory observations.

"The most careless observer" (he says, p. 10,) "is led to notice that there is a beautiful regularity running through nature as a whole, and through every individual part of it. This was discovered in very early ages of the world's history, by persons who had no very precise ideas as to its nature, or the means by which it was produced. The Greeks from the time of Pythagoras, embodied their impressions of the word by which they denoted the visible world, which they called Cosmos, to denote at once its order and beauty, while the Latins styled the world Mundus, to express their sense of its surpassing loveliness. Ever since the time when the philosophic spirit was first awakened, reflecting minds have been speculating as to the sources of this order, and caught, at a very early age, glimpses of the truth. . . . . . (p. 12.) Early science, like youth, is ardent, is eager, and not having as yet determined either its strength or its weakness, it would attempt every work, and works far beyond its capacity. Like the giants of the early world, it is ambitious, and would heap Ossa on Pelion, and mount to heaven, not by gradual and numerous steps, but by one bold and presumptuous effort. . . . . . It turns out that the work which one man or one school has attempted, needs, in order to its completion, the combined industry of many investigators, continued through long successive ages. (p. 13.) For just as when society makes progress there is a necessity for the division of manual labor, (as Adam Smith has shown in the opening Chapter of his Wealth of Nations,) so, in order to the advance of science, there is need of a division of intellectual labor. Most important of all, there arises, in the midst of the jealousies of rival schools and the noise of fruitless disputations, a demand for a surer, even though it should be a slower, method of investigation,—a method which will give results, be they many or be they few, which are not of the nature of ingenious speculations, but ascertained truths, fixed forever, and which all inquirers who come after may use, to help them to add to the accumulating stores of knowledge. . . . . . Since the days of Lord Bacon, scientific inquirers, according to their tastes, talents and position, have betaken them each to his own field of investigation, with the view of thoroughly exploring it; and, as the grand result, we have a settled body of truth, to which additions will be made from age to age. . . . . . In these days we speak of all things being governed by laws; we lay it down as a maxim, that the end of all science is the discovery of law. . . . . . . (p. 14.) It is the special office of each science to discover what the nature of the law is in its own department. This is the grand aim, so far as it has a grand aim, of all modern physical investigation,—to determine the rule to which the particular classes of objects under contemplation accommodate themselves. But in very proportion as the sciences have become subdivided and narrowed to particular facts, is there a desire waxing stronger, among minds of larger view, to have the light which they have scattered collected into a focus. As the special sciences advance, the old question, which has been from the beginning, will anew and anew be started,—What is the general meaning of the laws which reign throughout the visible world? A correct and adequate answer to this wide question can be given only by a wide induction, and a combination of the results gained by a vast number of sepa-

> rate sciences, each conducted on its own principles. We live in the expectation of the approach of a time when science—the division of labor having fulfilled its ends—shall seek to combine its individual truths, (p. 15) and to realize the dream of its youth, and, as it were, carry us to a mountain top, when we may obtain not only a scattered view of the separate parts, but a connected view of the whole, and of the relative bearing and direction of every part." (*Typical Forms*, pp. 10 to 15.)

Take up any unabridged Dictionary, or any Encyclopedia, and you will find, in substance, that

> "Science or Sciences, is the name for such portions of human knowledge as have been more or less generalised, systematised, and verified. Generality as opposed to mere particulars, system as opposed to random arrangement, and verification as opposed to looseness of assumption, concur in that superior kind of knowledge dignified by this title." (*Chambers' Ency.*, tit. SCIENCE. Vol. VIII., p. 546.)

Science is based on the idea that :

> "The quality of the knowledge is of more consequence than the quantity ;" (*Ibid.*) [and it is the fault of some scientific books] "that they lessen the value of general views by an accumulation of detail, and do not sufficiently distinguish between these great results which form, as it were the beacon lights of science, and the long series of means by which they have been attained." (*Cosmos*, by Humboldt, p. 47.)

In the statement of one philosophical principle, the temptation is great, in the rapid activity of the human mind, to refer to some other or others of supposed immediate connection with it ; and this leads many minds, confessedly acute, to couple with the former, one or more of the latter, while each is really independent. They should be treated singly, in order to prevent too great an effort of the intellectual powers to grasp both, or it may be more than two at the same time. All science is made clear only by independent deductions from *isolated* facts ; and we commit a grave error if we base Natural Theology on aught less certain than the deductions of Physics.

Abstract propositions, although clearly perceived by some minds, are obscure to others, when simply stated without explanation of the circumstances which gave them the form of "fixed principles." Therefore, to meet a necessity for a full apprehension of the subject to the "common mind," a simpler method of conveying the idea is essential. And as this method involves the expenditure of but a small amount of patience on the part of those who are more advanced in learning, they can listen to details of the process by which their own minds were convinced, not only to fix them more surely in their convictions, but to enable those less gifted to perceive the idea more clearly. It is better that the learned should submit to what they deem "useless repetition," than that the less favored should grope in a dim light.

In adducing proofs of order and adaptation, in an argument like this, designed as it is to establish the fact simply as one of several links in a chain, we should, however, endeavor to avoid a detail which may so envelope the general idea as to weaken the reader's power to perceive it clearly.

We might, perhaps, very properly content ourselves with challenging proof of the contrary, where the affirmative of the proposition is so universally confessed. But inasmuch as a general epitome of some of the incontestable facts on which we rely, may be briefly stated, we will rapidly refer to them.

Dr. William Paley, in our opinion, stands out as the foremost champion for the conclusiveness of the argument from Design as opposed to Chance in the appearances of Nature. His "Natural Theology" was written over seventy years ago; and it has not only become a standard work, for popular reading, but has long been extensively used as a text book in colleges and high schools. ("*Natural Theology*; or, Evidences of the Existence and Attributes of The Deity, collected from the Appearances of Nature, By William Paley, D. D., Arch Deacon of Carlisle. Illustrated by the Plates, and by a selection of the Notes of James Paxton, Member of the Royal College of Surgeons, London. With Additional Notes, for this Edition, and a Vocabulary of Scientific Terms. Stereotype Edition. Boston: Gould, Kendall and Lincoln. 1840.") Its circulation has been so widespread that a copy is accessible to every scholar. It is admitted, on all hands, to be a masterly production, and is thought by many to be unsurpassed for clearness of statement, vigor of style and closeness of reasoning. Nevertheless, it has been followed by a multitude of kindred publications, which have been extensively read, but which do not in our judgment equal it, either in copiousness of illustration or in force of argument. It is true that later discoveries in science, and subsequent investigations in natural history have developed facts which modify some of those stated by him, and furnish additional proofs. These modifications, however, cannot alter his conclusions. The facts subsequently brought to light are, no doubt, interesting ; but they are inadequate to render it advisable to set him aside as stale, or to number his book among the obsolete. His followers have adduced no new proofs to establish design, except those which are "cumulative." The mass of evidence is thereby augmented ; yet, while they corroborate, they cannot materially strengthen what was already incontrovertably established.

Dr. Paley commences in Chapter I, entitled " State of the Argument," and in Chapter II, entitled " State of the Argument continued," with his celebrated illustration of the Watch ; and, in Chapter III, entitled " Application of the Argument," he likens the proofs of design in the Watch to those to be found in the works of Nature. Then, in a series of chapters, he takes up Plants and Animals ; shows the mechanical and immechanical parts and functions of many of them ; also the mechanical arrangement in the Human Frame ; the bones, the muscles and vessels of animal bodies ; he then dwells on the animal structure, regarded as a mass ; on Comparative Anatomy ; on Peculiar Organizations ; on Prospective Contrivances ; on Relations ; on Compensation ; on the Relation of animated Bodies to inanimate Nature ; on Instincts ; on the Elements, and on Astronomy. All these and several other pertinent subjects he considers, in detail ; and the whole is characterized by a boldness of statement, and a directness of purpose which should place him in the front rank of logical reasoners.

To attempt a recapitulation of his array of facts, would be impracticable. It would involve a republication of his entire work. Nor is it necessary; for a large majority of readers are familiar with them. Those who are not, or those who need to have their minds reinforced, should turn to this book and read it entire. We will, therefore quote sparingly. Let us read his observations on the *Eye* :—

[Here insert, beginning at p. 13.]

In Chapter VI., entitled "The Argument Cumulative," Dr. Paley observes :

> "Were there no example in the world of contrivance except that of the *eye*, it would be alone sufficient to support the conclusion which we draw from it, as to the necessity of an intelligent Creator. It could never be got rid of; because it could not be accounted for by any other supposition, which did not contradict all the principles we possess of knowledge: the principles, according to which things do, as often as they can be brought to the test of experience, turn out to be true or false."

[Here insert from p. 44 to end of paragraph.]

Dr. McCosh takes up the theme, and thus descants upon it :—

> "The argument [from design] is one and the same in all ages. . . . . Socrates is represented in the "Memorabilia" of Xenophon as pointing to the traces of purpose in the eye, the ear, and the teeth, and to the care taken of every individual man. . . . . Though the argument is identical, yet it takes different forms in different ages; one reason of which is to be found in the circumstance that the physical facts require to be differently stated as science opens to us new views of the nature of the universe. Balbus the Stoic, the representative of theism in Cicero's treatise "De Natura Deorum," drew a solid enough argument from the order of the heavenly bodies, though he assumed that the sun moved round the earth. Those living since the theory of Copernicus expound the facts in a more scientific manner, but not more conclusively, as bearing on the relation of God to his works." (*Christianity and Positivism*, p. 3. See further, pp. 4, 5.)

Dr. McCosh affirms :—" All things are subordinated to law, and this law . . . . . . is an order in respect of such qualities as Number, Time, Color and Form." (*Typical Forms*," p. 15.) He then proceeds, with the coöperation of Dr. DICKIE to marshall an array of facts of an exceedingly interesting and somewhat novel character to prove this in four propositions, which he first treats in a general way and then elaborates with particulars illustrated by many drawings. We will give what he thus says in a general way :—

[Here insert from p. 15 to p. 29.]

We do not intend by such quotations to adopt, under Division I, any of the conclusions of an author, except the one great FACT that Order and Adaptation prevail throughout Nature. Whether one or another of the different schools of investigators be right or wrong, in their methods of reaching this conclusion, is immaterial. It is enough for us to know that the result of all their varied investigations point to the one grand fact just stated, as established beyond all doubt. (See *Elements of Psycology*, by M. COUSIN, pp. 377, 379.)

Many other excellent works designed to show order and adaptation in nature have been published, among which is one of marked merit by Dr. Hartwig. (" *The Harmonies of Nature*, or The Unity of Creation. By Dr G. HARTWIG, Author of ' The Sea and its Living Wonders,' and ' The Tropical World.' With numerous wood cuts. New York: D. Appleton & Co. 1866.") To which may be added any and all books on Chemistry and Physics, Astronomy and Meteorology, Natural History and Physical Geography, Geology and Mineralogy, Zoölogy and Botany. These cover a wide range of investigation and include not only revelations discernable to the senses unassisted by mechanical contrivances, but the more wonderful discoveries made through the aids furnished by the telescope, microscope and spectroscope, and by the thermometer, barometer, air pump, electrical machine, and galvanic battery, all of which, with others, would be useless instruments were it not that those who manipulate and use them could confidently rely on *invariable* "laws" of Order and Adaptation. The disclosures of these sciences, (so called,) aided by the use of these instruments, are so widely disseminated, in the present generation, that the adage "he who runs may read" is verified, in the walks of modern science, as completely as any "old saw" ever was to the experts of earlier times.

The lawyer looks up to science as his best helper. It was chiefly through the instrumentalities of science that the great principles of jurisprudence have been reduced to a comparatively few leading Maxims which may be printed in a primer and carried in the pocket. The expounding of these principles and the application of them to actual cases have given rise to multitudes of adjudications, the publication of the most noticeable of which has multiplied law books by thousands.

BOUVIER in his *Law Dictionary,* (Deacon & Peterson, Printers, Philadelphia. 4th edit., 1852,) thus defines MAXIM :

> "MAXIM. 1. An established principle or proposition. A principle of law universally admitted, as being just and consonant with reason. 2. Maxims in law are somewhat like axioms in geometry. (*Blackstone's Commentaries*, p. 68.) They are principles and authorities, and part of the general customs or common law of the land ; and are of the same strength as acts of Parliament, where the judges have determined what is a maxim ; which belongs to the judges and not to the jury. (*Terms de Ley ;* Doctor and Student. Dialogue I, Chap. 8.) Maxims of the Law are holden for law, and all other cases that may be applied to them shall be taken for granted. . . . . . . [Books cited.] 3. The application of the maxim to the case before the Court, is generally the only difficulty. The true method of making the application is to ascertain how the maxim arose, and to consider whether the case to which it is applied is of the same character, or whether it is an exception to an apparently general rule. 4. The alterations of any of the maxims of the common law are dangerous. (2 Inst. 210.)"

These maxims are mostly in Latin. We will give some of them as translated by Bouvier. They contain many which may be used as guides when we come to compare the affirmative and contradictory proofs, and seek to deduce correct conclusions therefrom. We give them in the order in which they appear in his list. He arranges them alphabetically according to the initials of their first words, whether in English, in a dead language, or in a foreign tongue. To facilitate a reference to them in his book, we refer to the pages where those we copy may be found.

[Here insert about a dozen pages of our Ms., containing a list of those we have selected, of which we give these as specimens :—

"A consequence ought not to be drawn from another consequence."

"The principle part of everything is the beginning."

"The cause ceasing, the effect must cease."

"From similars to similars we are to proceed by the same rule."

"The power which is derived cannot be greater than that from which it is derived."

"It is a guess and not interpretation which altogether departs from the letter."

"A deceiver deals in generals."

"It is not allowed to double a possibility."

"To refer errors to their origin is to refute them."

"From the great number of signs true identity may be ascertained."

"The construction or resolution should arise out of the whole subject matter."

"It is the same thing to say nothing and not to say it sufficiently."

"To be able to know is the same as to know."

"An ignorance of terms is to be ignorant of the art."

"In conjunctives each part ought to be true."

"In disjunctives it is sufficient if either part is true."

"In doubtful cases the more worthy is to be taken."

"An inconvenience does not solve an argument."

"The undefined is equivalent to the whole."

"To interpret and reconcile laws that they harmonize is the best mode of construction."

"The laws of nature are unchangeable."

"We speak as the common people ; we must speak as the learned."

"The greater includes the less."

"The more common the evil, the worse."

"Many things pass as a whole which would not pass separately."

"Many men know many things ; no one knows everything."

"A multitude of ignorant practitioners destroys a court."

"The force of nature is great; nature is doubly great."

"Nature makes no leap; nor does the law."

"That is necessity which cannot be dispensed with."

"Necessity has no law."

"No one is born an artist."

"There is no disputing against a man denying principles."

"Not to believe rashly is the nerve of wisdom."

"An exception is, in itself, a rule."

"One of two opposite positions being affirmed, the other is denied."

"Strong presumption is full proof."

"Supreme power can dissolve, but cannot bind itself."

"Given principles follow their concomitants."

"He who seeks a reason for everything subverts reason."

"Whatever is not good in the beginning cannot be rendered good by time."

"The knowledge of smatterers is mixed ignorance."

"Every exception not watched tends to assume the place of the principle."

"One absurdity being allowed, an infinity follow."

"Truth fears nothing but concealment."

"By too much altercation truth is lost."

"That is a viperous exposition which knaws or eats out the bowels of the text."

"When the law presumes the affirmative, the negative is to be proved."

"When the foundation fails, all fails."

"A maxim is so called because its dignity is chiefest, and its authority the most certain, and because universally approved by all."

"In default of the law, the maxim rules."

"Whoever wishes to be a lawyer, let him continually study, and desire to be taught everything."]

We have omitted many immediately concerning crimes and moral conduct; and might have omitted others as being repetitious; but have retained several of the latter because there might be a choice in the forms of expression. Our selections are chiefly those which relate to the interpretation of words and terms, and to the ascertainment of truth. The man of science will readily perceive that most of these might be invoked as guides to reason in every department of learning. He can profitably use them in the detection of the frauds of charlatans, and in the exposure of the vagaries of intellectual quacks, and in dispelling the clouds and mists in which the positivists involve fundamental truths. They enable him to know on whom the *onus* of proof lies, when a thing long accepted as fact by general consent is sought to be overthrown, and what will be deemed sufficient to shove that supposed fact aside. The physician can select from among these rules those which will help him determine what, in the practice of medicine, is based on the certainties or approximate certainties of science, and what belongs to the pretensions of empyricism ; what is a " specific," as distinguished from an experimental remedy. The theologian, too, can find among them keys to unlock mysteries which, by less rigid tests, it would be exceedingly difficult if not wholly impossible for him to open up to view. Before we dispose of all the topics referred to in our Table of Contents we likewise expect to have occasion to consult these sententious words of the wise, and be guided by what they teach.

No oriental slave ever made a lower salaam to his master than the lawyer makes to science. She is the lawyer's first love ; because she deals solely with facts. Science scorns sophistry ; so doth the law. True science when rightly understood, is the last to lead to " lame and impotent conclusions." Wm. M. Evarts in his exceedingly happy address, as presiding officer, at the banquet given (Feb. 4, 1873,) at Delmonico's, on the eve of the departure of professor Tyndall, to England, after his recent lecturing tour in the United States, declares that our most perfect model of an American lawyer and statesman, DANIEL WEBSTER, was a devoted lover of science ; and we are proud of the profession in which science finds its most ardent votaries :—

> " I believe that some of the most sincere and some of the most faithful admirers of men of learning and of science have been those who were not themselves instructed or fortunate in their instruction in any of these departments of human knowledge. I remember to have been much struck, in reading in the memoirs of Prof. Silliman, with an interview which he had with Mr. Webster, when that great lawyer and statesman was making his last journey from Washington to the State of Massachusetts, where he soon afterwards died. He accosted Prof. Silliman in the journey (they were old acquaintances) by saying to him : ' The law is uncertain, and politics are utterly vain ; but there is a nobleness of certainty in science which commands my admiration ; and I would willingly pass the rest

> of my life in studying its truths.' Mr. Webster, as we all know, then represented in himself all that was most successful and most brilliant in the profession of the law, in the oratory of the Senate, and in popular applause; and yet, in the sincerity of his heart, bending under the weight of his cares and his troubles, filling then the highest civic place in the country except the Presidency, he bent readily at the shrine of science, and admitted the solemnity and certainty of its truths." (*N. Y. Daily Tribune*, Feb. 5, 1873.)

Mr. Evarts was followed by Professor Tyndall himself, who, in the course of his remarks, paid a high compliment to Professor Youmans, the Editor of the *Popular Science Monthly*, and dwelt upon the importance of establishing in this country endowed professorships in science, similar to those in England.

> "As to the source of the funds necessary for founding the chairs to which I have referred it is not for me to offer an opinion. Without raising the disputed question of State aid, in this country it is possible to do a great deal without it. As I said in my lectures, the willingness of American citizens to throw their fortunes into the cause of public education is without a parallel in my experience. Hitherto their efforts have been directed to the practical side of science, and this is why I sought in my lectures to show the dependence of practice upon principles. On the ground, then, of mere practical, material utility, pure science ought to be cultivated. But assuredly among your men of wealth there are those willing to listen to an appeal on higher grounds, to whom, as American citizens, it will be a pride to fashion American men so as to enable them to take their places among those great ones mentioned in my lectures. Into this plea I would pour all my strength. Not as a servant of Mammon do I ask you to take science to your hearts, but as the strengthener and enlightener of the mind of man." (*N. Y. Daily Tribune*, Feb. 5th, 1873.)

We heartily unite in this appeal, and hope to see it speedily answered. When it shall be responded to, as it doubtless will be, in that liberal spirit which has heretofore uniformly distinguished the benefactions of wealthy Americans, and after the first endowment in this direction shall be followed by others more and more munificent and extensive, we shall have scores of great minds where we have one, now, to testify that, throughout nature, Order and Adaptation are observable ☞ EVERYWHERE.

8. CONTRADICTORY PROOFS.

Does the Doubter deny that Order and Adaptation are found throughout Nature as we have affirmed ? No. He concedes all this. He could not deny this if he would. He would deny it if he could. Does he attempt to prove that Matter had no beginning ? No. He stops short of this ; he takes matter as an existence, without inquiring whence it came ; and he then undertakes to show Order and Adaptation to be so far perfected beyond what we claim for them, that Life may be "evolved" from Matter. He starts the theory that what we call life was "developed" from a lower to a higher organism ; beginning far back into a very remote past where he professes to find a connecting link between inert matter and a "Physical Basis of Life." Does he seek to overthrow the "Atomic Theory" of the Chemist ? No. He makes use of it. Does he ignore Science ? No. He invokes it.

All who belong to this class of reasoners are, essentially, Materialists ; and it is to them that we must look for proofs, if any can be adduced, tending to contradict the proposition involved in the Initial Inquiry, viz., that matter had a beginning. Our quotations under this head will therefore be taken from the writings of men, who are either known to be or who are suspected of being Materialists. We say "suspected" because the best thinkers among them do not distinctly announce that they are Materialists.

Materialism takes on many forms ; and it makes its appearance under various names. Among the Doubters, Tyndall appears to be most sensitive about being called a Materialist. With Darwin and Huxley, Tyndall makes the Trio of Thinkers who represent the most formidable school of Doubters at the present day. These gentlemen are generally recognized as the best exponents of the most approved theories which are opposed to the existence of God. Neither proclaims his adherence to the Bible, and neither admits the existence of the "Supernatural" without some qualification which ultimately comes back to the Natural.

"We now turn to a higher school of materialists, who will not for various reasons, let themselves be called materialists, not only from the unhappy association of the name, but from profounder reasons. Some of them will not allow themselves to be so denominated because they do not take the gross views of matter which are generally entertained. We have found Professor Tyndall referring to this when he finds a difficulty in getting mind out of star dust. Matter, say the whole of the school I am now referring to, is something vastly higher in itself than what it is supposed to be in the popular apprehensions gendered by religious prejudices, which represent the body and matter as altogether inert and vile and despicable. Matter, they show, has higher qualities: it has immense, indeed immeasurable, activity, and lofty powers of attraction and repulsion and assimilation; and they hint, if they do not assert, that it may have the power of fashioning ideas and pronouncing judgments, moral and intellectual." (*Christianity and Positivism*, p. 199.) [As to Huxley, see *Ibid*, p. 202, who says he is no materialist, and concerning whom, with his whole school, Dr. McCosh says: "This brings me to the second ground on which these men decline to be called materialists: it is because they believe neither in mind nor matter as substances. . . . . . . You will see now more fully the object I had in view in discussing the subject of Nescience in Lecture IV of this course, (*ante*, p. 60) and the importance of showing that we know both mind and matter as having real existence and power and permanence." See, further, as to Tyndall, *Ibid*, p. 206.]

In earlier times, while the press was constantly issuing something new in natural history, and was repeatedly giving to the world fresh revelations of the Telescope, Microscope and Spectroscope, together with developments in Chemistry and Geology, all tending to show the impossibility of matter and the laws governing matter existing without an intelligent cause, it became necessary for unbelievers to invoke the aid of Science themselves. Their efforts resulted in several publications, emanating from writers of various grades, which culminated in what is called the "Development Theory," the doctrines of which at one time sought to exclude from the mind every idea of the interposing hand of an intelligent

Creator, not only in the development and growth of living creatures, but in their *origination.* They taught that matter was eternal, and that all forms of matter originated through "physical forces," which operated according to what are called "physical laws"; the laws of Gravitation, Heat, Light, Electricity, Magnetism, Chemical Affinity and other natural forces; laws which have been said to *administer themselves.* (See *Mind in Nature*, p.)

These views having been much discussed, and subjected to searching criticism, the ablest advocates of the theory were finally driven to take new ground, involving an admission that *in the beginning* an intelligent power made or formed all things by a direct fiat. They now link this concession with the assertion that in order that the universe might go on in the course which he had set it upon, he established certain laws, as independent rulers of the forces of nature, competent to influence, if not the origin, at least the development and growth of all things, without any further interposition of his power. Their latest publications *seem* to acknowledge the primary interposition of an Intelligent First Cause; but they substantially say the laws which he has established can now control the work for him. Thus they would eventually make it seem possible that his power can be made to operate in such a way that his existence, after his first fiat, is no longer necessary. (See *Mind in Nature*, p.)

DARWIN is generally accepted as the ablest exponent of these doctrines; he attempts to base them on scientific facts; and HUXLEY, although differing on some points, has become widely read as one of his best supporters.

These authors advocate the hypothesis which supposes the species living at any time to be the result of the gradual modification of preëxisting species.

Darwin, in his work entitled the *Descent of Man*, refers to his former work entitled the *Origin of Species*, and he thus states the points he has sought to establish:

"I now admit, after reading the essay by Nägeli on plants, and the remarks by various authors with respect to animals, more especially those recently made by Prof. Broca, that in the earlier edition of my "Origin of Species" I probably attributed too much to the action of natural selection or the survival of the fittest. I have altered the fifth edition of the Origin so as to confine my remarks to adaptive changes of structure. I had not formerly sufficiently considered the existence of many structures which appear to be, as far as we can judge, neither beneficial nor injurious; and this I believe to be one of the greatest oversights as yet detected in my work. I may be permitted to say, as some excuse, that I had two distinct objects in view:—firstly, to show that species had not been separately created; and, secondly, that natural selection had been the chief agent of change, though largely aided by the inherited effects of habit, and slightly by the direct action of the surrounding conditions. Nevertheless, I was not able to annul the influence of my former belief, then widely prevalent, that each species had been purposely created; and this led to my tacitly assuming that every detail of structure, excepting rudiments, [of which more hereafter] was of some special, though unrecognized service. Any one with this assumption in his mind would naturally extend the action of natural selection, either during past or present times, too far. Some of these who admit the principle of Evolution, but reject natural selection, seem to forget, when criticising my book, that I had the above two objects in view. Hence, if I have erred in giving to natural selection great power, which I am far from admitting, or in having exaggerated its power which is in itself probable, I have at least, as I hope, done good service in aiding to overthrow the dogma of *separate* creations." (*Descent of Man*, Vol. I, p. 146.)

He might have added—"as held by Lyell," in the passage we have already quoted from his *Elements of Geology*, p. 781. (*ante* p. 110.)

Huxley maintains that to suppose each species of plant and animal to have been formed and placed on the surface of the globe, at long intervals, by a distinct act of creative power, is an assumption "as unsupported by tradition or revelation as it is opposed to the general analogy of nature." (*Chambers' Ency.*, tit. SPECIES. Vol. IX, p. 25.)

The Development Theory is based upon the idea that Man has sprung from an inferior animal organism; it may be the lowest; even from the connecting link, if there be such a link, between the animal and the vegetable; and, it may be, even from the connecting link, if there be such a link, between the vegetable and the mineral; and, still further, it may be, even from the connecting link, if there be such a link, between the mineral and the liquid; or, perhaps, the gasseous or æriform; or, may be, the "ultimate atom,"—why not go back, one step farther, and say, it may be from the connecting link, if there be such a link, between ultimate atom and ultimate mind?

The theory of ultimate atoms may be deduced from Facts, disclosed in the "Exact Science" of Chemistry. No one doubts the Atomic Theory; simply because it appeals to Effects for which we can find no adequate Cause, except upon such a theory; a theory truly Scientific, in the fullest acceptation of that term.

But the Development Theory can make no such claim to be classed as an *Exact* Science; for, none of its Advocates pretend to have discovered, as Fact, any connecting link between Man and his assumed immediate progenitor, viz., the Ape, or its kind. (See Division VI., Part I., Sub. I0.

In the *Popular Science Monthly*, (No. IX., Jan., 1873, p. 280,) a writer advocates the theory that there is a connecting link between animals and plants:—

> "That there are no 'hard and soft lines' in Nature is a truth which is more and more forcing itself upon the minds of men of science The older naturalists delighted to circumscribe their own special domains within sharply-marked boundaries, which no trespassers were allowed to pass. We have long given up the attempt thus accurately to map out the kingdom of Nature. Her varied productions are connected with one another by innumerable links and cross-links; and our systems of classification, even the most 'natural,' are but an imperfect human contrivance for bringing together those forms which present the most evident marks of resemblance or affinity. While the truth of this law is most familiar in the case of those smaller subdivisions of the animal and vegetable kingdoms—classes, orders, and genera—which are connected with one another by innumerable intermediate forms, it is none the less certain in the line of demarcation which separates these two great kingdoms themselves from one another. In attempting to draw up a definition which shall serve accurately and infallibly to distinguish between the Animal and Vegetable Kingdoms, we find ourselves compelled to abandon one supposed crucial test after another, and to content ourselves at last with framing, as in the case of the lower subdivisions, an assemblage of characters, by the *tout ensemble* of which we must decide whether our organism is an animal or a plant."

[Here insert more from the same article.]

Huxley seems to advance a theory that life proceeds from matter:—

> "In order to make the title of this discourse generally intelligible, I have translated the term 'Protoplasm,' which is the scientific name of

the substance of which I am about to speak by the words 'the physical basis of life.' I suppose that, to many, the idea that there is such a thing as a physical basis, or matter of life may be novel—so widely spread is the conception of life as a something which works through matter, but is independent of it; and even those who are aware that matter and life are inseparably connected, may not be prepared for the conclusion plainly suggested by the phrase, 'the physical basis or matter of life,' that there is some one kind of matter which is common to all living beings, and that their endless diversities are bound together by a physical, as well as an ideal, unity. In fact, when first apprehended, such a doctrine as this appears almost shocking to common sense." (*Lay Sermons, Addresses and Reviews*, by Huxley, p. 120. New York, D. Appleton & Co. 1871. Lay Sermon entitled "Physical Basis of Life," delivered in Edinburgh, on Sunday, Nov. 8, 1868, published in the *Fortnightly Review.*)

Throughout the whole of the Lay Sermon, from which we have just quoted the first paragraph, Mr. Huxley invokes the Laws of Order and Adaptation as underlying and controlling all the phenomena of life linked to matter.

"Such objections as these must, I think, arise in the mind of every one who ponders, for the first time, upon the conception of a single physical basis of life underlying all the diversities of vital existence; but I propose to demonstrate to you that, notwithstanding these apparent difficulties, a threefold unity—namely, a unity of power or faculty, a unity of form, and a unity of substantial composition—does pervade the whole living world." (*Ibid*, p. 122.)

Again :—

"One fact, at any rate, is out the reach of such refinements, and this is, that all the forms of protoplasm which have yet been examined contain the four elements, carbon, hydrogen, oxygen, and nitrogen, in very complex union, and that they behave similarly towards several reagents. To this complex combination, the nature of which has never been determined with exactness, the name of Protein has been applied." (*Ibid*, p. 130.)

Again :—

"And now, what is the ultimate fate, and what the origin, of the matter of life? Is it, as some of the older naturalists supposed, diffused throughout the universe in molecules, which are indestructable and unchangeable in themselves; but in endless transmigration, unite in innumerable permulations, into the diversified forms of life we know? Or, is the matter of life composed of ordinary matter, differing from it only in the manner in which its atoms are aggregated? Is it built up of ordinary matter, and again resolved into ordinary matter when its work is done? Modern science does not hesitate a moment between these alternatives. . . . . . . Under whatever disguise it takes refuge, whether fungus or oak, worm or man, the living protoplasm not only ultimately dies and is resolved into its mineral and lifeless constituents, but is always dying, and, strange as the paradox may sound, could not live unless it died." (*Ibid*, pp. 131, 132.)

Again :—

"Carbon, hydrogen, oxygen, and nitrogen are all lifeless bodies. Of these, carbon and oxygen unite in certain proportions and under certain conditions [?] to give rise to carbonic acid; hydrogen and oxygen produce water; nitrogen and hydrogen give rise to ammonia. These new compounds, like the elementary bodies of which they are composed, are lifeless. But when they are brought together, under certain conditions, [?] they give rise to the still more complex body, protoplasm, and this protoplasm exhibits the phenomena of life." (*Ibid*, p. 135.)

Again :—

"Let us suppose that knowledge is absolute, and not relative, and therefore, that our conception of matter represents that which it really is. Let us suppose, further that we do know more of cause and effect than a certain definite order of succession among facts, and that we have a knowledge of the necessity of that succession—and hence, of necessary laws—and I, for my part, do not see what escape there is from utter materialism and necessarianism. For it is obvious that our knowledge of what we call the material world is, to begin with, at least as certain and definite as that of the spiritual world, and that our acquaintance with law is of as old a date as our knowledge of spontaniety. Further, I take it to be demonstrable that it is utterly impossible to prove that anything whatever may not be the effect of a material and necessary cause, and that human logic is equally incompetent to prove that any act is really spontaneous. A really spontaneous act is one which, by the assumption, has no cause; and the attempt to prove such a negative as this is, on the face of the matter, absurd. And while it is thus a physical impossibility to demonstrate that any given phenomenon is not the effect of a material cause, any one who is acquainted with the history of science will admit, that its progress has, in all ages, meant, and now, more than ever, means, the extension of the province of what we call matter and causation, and the concomitant gradual banishment from all regions of human thought of what we call spirit and spontaniety." (*Ibid*, pp. 141, 142.)

Again :—

"I have endeavored, in the first part of this discourse, to give you a conception of the direction towards which modern physiology is tending: and I ask you, what is the difference between the conception of life as the product of a certain disposition of material molecules, and the old notion of an Archæus governing and directing blind matter within each living body, except this—that here, as elsewhere, matter and law have devoured spirit and spontaniety? And as surely as every future grows out of every past and present, so will the physiology of the future gradually extend the realm of matter and law until it is co-extensive with knowledge, with feeling and with action." (*Ibid*, p. 142.)

Again :—

"The consciousness of this great truth, weighs like a nightmare, I believe, upon many of the best minds of these days. They watch what they conceive to be the progress of materialism, in such fear and powerless anger as a savage feels, when, during an eclipse, the great shadow creeps over the face of the sun. The advancing tide of matter threatens to drown their souls; [does he believe man has a soul?] the tightening grasp of law impedes their freedom; they are alarmed lest man's moral nature [does he believe man has a moral nature?] be debased by the increase of his wisdom." (*Ibid*, pp. 142, 143.)

Again :—

"I suppose if there be an 'iron' law, it is that of gravitation; and if there be a physical necessity, it is that a stone, unsupported, must fall to the ground. But what is all we really know, and can know about the latter phenomenon? Simply, that, in all human experience, stones have fallen to the ground under these conditions; that we have not the smallest reason for believing that any stone so circumstanced will not fall to the ground; and that we have, on the contrary, every reason to believe that it will so fall. It is very convenient to indicate that all the conditions of belief have been fulfilled in this case, by calling the statement that unsupported stones will fall to the ground, 'a law of nature.' But when, as commonly happens, we change *will* into *must*, we introduce an idea of necessity which most assuredly does not lie in the observed facts, and has no warranty that I can discover elsewhere. For my part, I utterly repudiate and anathematise the intruder. Fact I know; and Law I know; but what is this Necessity, save an empty shadow of my own mind's throwing?" (*Ibid*, pp. 143, 144.)

Again :—

"But, it is certain, that we can have no knowledge of the nature of either matter or spirit, and that the notion of necessity is something illegitimately thrust into the perfectly legitimate conception of law. The materialistic position that there is nothing in the world but matter, force, and necessity, is as utterly devoid of justification as the most baseless of theologic dogmas." (*Ibid*, p. 144.)

We urge the Doubter to read the whole of this Lay Sermon of Mr. Huxley. Our quotations are designed to show that while he seems to deny that matter had a beginning, he accepts the Law of Order and Adaptation, throughout the phenomena of Nature, as displayed in living organisms. In another Division, and, it may be, other Divisions, of our argument, we may find appropriate places for further quotations from his works, more at large.

We likewise recommend a perusal of Dr. McCosh's review of Mr. Huxley's *Physical Basis of Life*, in the book of the former, from which we have already borrowed, entitled *Christianity and Positivism*, and from which we further quote :—

"Now, upon this account of protoplasm I have to remark that the great body of naturalists do not allow that it is correct. One of the most erudite men of our day, Dr. Stirling, in a paper [*As Regards Protoplasm*] read before the Royal College of Physicians of Edinburgh, has shown that the researches of the eminent German physiologists are against him. They do not admit that one and the same protoplasm is the matter of all organisms. It is certain that all protoplasm is not chemically identical. The protoplasm differs in different tissues, is different in the bone from what it is in the muscle, and different in the nerves and brain from what it is in any other part of the frame. Again, it is affirmed that the protoplasm differs in different plants and animals, each of which has its own kind, which is not interchangeable with that of the rest.

"But we may let Mr. Huxley's account of it pass. From his description of it, it is evident that this elementary life stuff is a very complex body, with very peculiar endowments,—quite as likely to work evil as to work good, and requiring to be directed in order to operate beneficently. It is composed, chemically, of carbon, hydrogen, oxygen, and nitrogen; in one word, of Protein. But then protein is not protoplasm: no power known can turn protein into protoplasm. Science, at its present advanced stage, cannot change dead matter into living matter. No chemist can do it in his laboratory. The most prying inquiry, by microscope or otherwise, into the laboratory of nature, has not detected her producing living matter in the form of protoplasm, or any other, except by matter already living. No known plant can live upon the uncompounded elements of protoplasm. 'A plant,' says Mr. Huxley himself, 'supplied with pure carbon, hydrogen, oxygen and nitrogen, phosphorous, sulphur, and the like, would as infallably die as the animal in his bath of smelling salts, though it would be surrounded by all the constituents of protoplasm.'

"Professor Huxley, indeed, tells us that 'when carbon, hydrogen, oxygen, and nitrogen are brought together, under certain conditions, they give rise to the still more complex body, protoplasm; and this protoplasm exhibits the phenomena of life.' Under *certain conditions:* we must not let these words slip in so quietly, as Mr. Huxley would have it. These conditions, be they what they may, constitute the difference between dead protein and living protoplasm. And here I may remark that Mr. Mill has been showing (I think successfully, and I have been aiding him in my own way) that what are usually called conditions are truly parts of the cause, which is the sum of the conditions,—the cause, as I have labored to prove, being dual, plural, complex, always implying more than one agent; and it is only when all are present that the effect is produced. We say the organ produces music on the condition of one playing on it; but surely the man playing is as essential a part of the cause as the organ itself. [Here a valuable foot note is inserted which we omit, but which the reader ought to peruse.] By no skill can the chemist turn protein into protoplasm. Professor Huxley thinks it can be done on conditions to him unknown. When he knows what the conditions are, and makes them known to me, I am sure I will be able to discover adaptation and design in them. Herbert Spencer tells us that chemists have shown that many supposed organic substances are inorganic. Be it so, that men have made a mistake in the past which they are seeking to rectify in the present. And then, in the usual dogmatic way of a man who may see clearly much truth, but does not see other truths by which it is modified, he assures us that no chemist doubts but he will be able to turn inorganic into organic matter. All I have to say on this is, that when the chemist has done it, and shown the way by which he has done it, I am confident

I will be able to point out a curious adaptation, in these conditions, previously unknown, but now known, by which he has accomplished the feat. If they have come from without, they have come in so appropriately as to show that they have come of purpose,—whether by natural law or not, we may not be able to tell till the man of science has made them known to us.

"And then 'protoplasm,' says Stirling, 'can only be produced by protoplasm, and each of all the innumerable varieties of protoplasm only by its own kind. For the protoplasm of the worm we must go to the worm, and for that of the toadstool to the toadstool. In fact, if all living beings came from protoplasm, it is quite as certain that but for living beings protoplasm would disappear.' Where then did we get the first protoplasm and the various kinds of protoplasm, is still the question." (*Christianity and Positivism*, pp. 20, 21, 22, 23, 24.)

Dr. McCosh does not stop here: he pushes his argument, with vigor and clearness many lengths farther on, and with fresh facts, including those based upon the theories and dogmas of the cell and the egg, the spontaneous generation of animal organisms, and the germination of plants; and he does not forget to speak of "sensation" and "star dust." If we should attempt to give his views at large, we must not quote paragraphs, but reprint most of his book.

In his Lecture on "Radiant Heat and its Relations," Tyndall is still more pointed than Huxley :—

"Throughout the processes of Nature there is interdependence and harmony, and the main value of our science, considered as a mental discipline, consists in the tracing of this interdependence and the demonstration of this harmony. The outward and visible phenomena are with us the correctors of the intellect; and our science would not be worthy of its name and fame if it halted at facts, however practically useful, and neglected the laws which accompany and rule phenomena." (*Fragments of Science*, p. 227.)

[Here insert several other extracts from writings which may be said to "squint" towards the proposition that matter had no beginning. I could give them in great numbers; but I find no opposing author who grapples with the question so squarely as to entitle his arguments to a reproduction here. Nevertheless, I will give place to some of their most noteworthy attempts, which I have collected and have ready for the printer, if the publisher wants them. Darwinism will be more fully considered in Division IV., Part I., Sub. 10, under the title "The Bible consistent with Science;" but I propose to devote but little space to it.]

The views of Darwin, Huxley and Tyndall, and those of some of their adherents have been presented from a scientific standpoint, in very attractive language, and with subtle power of reasoning. Those who have opposed them have sought to counteract their influence by publications equally if not more attractive and powerful; among which we again refer to the works of McCosh and the Hodges; and we make special mention of *Mind in Nature*, by Clark, ("MIND IN NATURE; or the Origin of Life, and the mode of Development of Animals. By HENRY JAMES CLARK, A. B., B. S. Adjunct Professor of Zoölogy in Harvard University, Cambridge, Mass. Member of the American Academy of Arts and Sciences, Boston, Mass.; of the Boston Society of Natural History; Corresponding Member of the American Microscopical Society of New York, etc., etc. With over two hundred illustrations. New York: D. Appleton and Company, 1865,") and of *Homo versus Darwin*, by an anonymous writer. ("HOMO *versus* DARWIN: A Judicial Examination of Statements recently published by Mr. Darwin regarding 'THE DESCENT OF MAN.' Philadelphia: Claxton, Remsen & Haffelfinger. 1872.") They have also dealt with the subject in the lights of Science; and it would be interesting to follow these discussions. But it is enough, for our present purpose, to state that the most eminent among "free thinkers" concede the existence of an Intelligent Being, possessing supernatural power, which has been exercised, at *some time*, in the work of creation.

It is a singular circumstance that they do not perceive, in this concession, "a surrender of the whole argument." For, to admit the interposing hand of a Creator, in a *single* instance, and then seek to diminish his power, or to limit the extent of his works, would lead them into entanglements from which it would be impossible for them to extricate themselves. Plain sense would seem to compel them either to deny his existence altogether, or to concede that he not only originated but that he has always governed living organisms.

Such a concession, however, even from such sources, would not be sufficient ; not even if it involves a *surrender* by them of the whole argument. The Doubter wants proofs ; not assertions ; nor conjectures ; nor concessions.

When we come, as we shall, presently, to compare, more fully, the proofs adduced on both sides of the question now under discussion, we think our Readers will have no difficulty in rightly determining on which side the preponderance of the evidence is to be found ; and that the Doubter will be compelled to admit that we have proved by competent and sufficient evidence that Matter must have had a beginning.

9. COMPARISON OF PROOFS.

In a controversy at law, the lawyer is at fault if he does not find what is called the "turning point in the case"; and whenever he is called upon to propound a theory, on any subject of investigation, his professional training and habit of thought naturally lead him to fasten upon the inevitable *turning point* in the argument. The patent lawyer, who deals chiefly with mechanics, clings to such a principle as this :—What is gained in time is lost in power. The commercial lawyer, who deals chiefly with contracts, confidently appeals to such a principle as this :—The smallest lawful consideration will support the largest *bona fide* promise. The criminal lawyer, who deals chiefly with violence against person or property, appeals to such a principle as this :—It is the intent which constitutes crime. The equity lawyer, who deals chiefly with remedies not "sounding in damages," holds up such a principle as this :—He who asks equity must do equity. Whether the lawyer confine himself to any particular department; or, whether his practice is general and includes all its departments; or, whether he ventures beyond the strict limits of his profession, and seeks to establish any thing, as a *fact*, pure and simple, he invokes the aid of such a principle as this :—Every effect must have a cause.

In the "learned professions," (so called), a member of one or the other is wont to say this or that belongs to *my* domain; but the lawyer whose practice comprehends all departments of the law must not halt at the threshold of any division of learning whatever. He must knock and demand entrance not only at the gate of every science, but at the door of every citadel of thought. His actual cases necessarily bring him in contact with all these, in one way or another. He is compelled to reach out after knowledge, "of every sort, kind, and description," wherever it may be found in the realms of fact. And, in the ascertainment of facts, he is admonished by such a principle as this :—The *best* attainable evidence must always be adduced to establish any fact.

Guided by these rules, we commence with what we conceive to be a conceded and fundamental proposition, an undeniable Fact, underlying the discussion which we now have in hand, viz. : *that throughout Nature there are well defined Laws of Order and Adaptation.* And we affirm this to be the "turning point" in the argument. The proof of this fundamental proposition has not been *assumed.* We have not "begged the question" by any dogmatic statements ; but we have elaborately demonstrated its truth by the strict rules of evidence, as commonly accepted by mankind in all enlightened governments.

Ye advocates of the "Development Theory ;" ye disciples of Darwin and Huxley ; ye admirers of the philosophy of Comte and Cousin, of Hamilton and Mill, of Spencer and Emerson ; ye followers of Tyndall ; ye philosophers who say that the Bible and Science contradict each other ; ye Doubting Theologians, who ignore or accept that Book, with qualifications ; ye Orthodox teachers ; ye Free Thinkers, with all the intermediate expounders of diverse schools of thought, from blind unreasoning faith to rank infidelity ; come ye, one and all, into the Observatory which ye all have helped to rear, and whose corner stone contains the fundamental proposition that, *throughout Nature there are well defined Laws of Order and Adaptation ;* come, and let us reason together, and determine, if we can, purely as a question of fact, scientifically considered, whether the outlook from this accepted standpoint reveals Man's place in Nature as proceeding from the thoughtful design of a supreme intelligent Creator, a First Cause ; or, whether it discloses Man's existence as alone referrable to and dependent upon some non-intelligent causation.

We believe that all these various classes of thinkers will be found to agree that, either immediately or remotely, either by a direct fiat, or by a gradual process of development, the immediate or remote cause of man's existence was an Intelligence, and that this Intelligence was Omnipotent.

What we may know of the Omnipotent and of his methods of procedure, or whether he is unknowable,—are questions which are inseparable from the first inquiry as to his existence; and we claim that all those of the various classes of thinkers who pretend to square their conclusions with reason, and who recognize the lights of modern science, have been and are still constrained to confess that he is not only knowable, but that he has made himself known; if not by direct verbal revelation, accompanied by miracles, at least to *some* extent, by his works as manifested in natural phenomena. Out of the diverse views of all these thinkers, orthodox and heterodox, the first inquiry propounded, as to his existence, has been substantially answered in the affirmative, excepting, only, by those who still cling to the traditions of the long since exploded theories of unscientific Infidelity, in its extremest phases of unbelief.

These Infidels may be dismissed, as unworthy of further consideration; simply because their pretensions to be classed among even the least of those who profess to sit at the footstool of Science are like the expectations of the drunken beggar who, at midnight, clamorously lays claim to the hospitality of the husbandman, for a lodging, a breakfast, a drink, a dollar and a ride farther on to the abode of the next husbandman, from whom, and from the next, and from others still, he makes a similar demand. So long as his demand is favorably answered, he prospers in his imposture; but, if he is uniformly denied, he either sinks by the wayside, or is reformed by "coming to a better mind." His representative is, in these latter days, ignored, by both the magnates and the minions of Science. He is unceremoniously thrust out of the confines of scientific research. We desire to assign to him his just place in the argument, and to treat him with due respect, as "a man and a brother." We do this when we thus briefly refer to him. We introduce him only to dismiss him. His momentary presence enables us to draw more sharply a dividing line between seriousness and levity ; between pardonable ignorance and inexcusable effrontery ; between the theory of adventitious Chance and the law of Cause and Effect.

There is, however, a class of Infidels who are more respectable than the ignorant scoffers to whom we have just referred. They are the advocates of the grossest form of Materialism, which unequivocally asserts that the Universe is God. Those who boldly avow this, at the present time, are esteemed as but little, if any, better than the rank infidel. It is unpopular to belong to either class ; and both are few in number compared with those who are Materialists of the milder and more fashionable types. But we think the balder and broader the materialistic doctrine is stated, the more logical it will be found. Let us suppose that the most candid among them should boldly affirm that matter is the same eternal substance which we call God ; and that there is no other substance in the universe. These views have never been established by any methods known to the Rules of Evidence, nor by any process of reasoning familiar to the Metaphysician. They are stated upon the theory that it is impossible to conceive the creation of something from nothing. We have undertaken to show that this idea is not only conceivable but that it is demonstrable as a logical conclusion. At all events, it is conceded, even by these radical disputants, that it is conceivable that the elements of matter being once in existence could be made by a designing mind to take the form of material bodies. The less radical, as we have seen, (*ante* p. 133,) convert, this conception, to some extent, into a reality. As we are now dealing with the former, let us assume that there is but one universal substance, viz., mind; and that the universe contains what is conceded by *all* thinkers, viz., abundant evidence of the existence of laws of Order and Adaptation. By "thinkers" we mean those who really *think*, and not those who, as an old play-hack expresses it, only "think they think." They do not appreciate that this concession involves the whole argument from Design, with its logical conclusion of supernatural contrivance; and although they have never, yet, like their more popular brethren, (*ante* p. 124,) constructed an argument deemed worthy of being seriously considered and refuted; nevertheless, we think they occupy a standpoint from which they can deal heavier blows than the more respectable in the same general school have thus far delivered; but we have searched, in vain, for a semblance of cogency in their arguments to show a probability, or even a possibility of evolving what we see in nature from a universal and original substance; and we propose to state what we would, if employed as a lawyer to advocate their theory, adduce "to make the best of the case." We would proceed thus:—

Something now is. Something has been from all eternity. This something was an all pervading substance composed of groups of elementary atoms, differing in quality and modes of action. They were all originally in a "gas~~s~~eous" state; that is, they were, almost infinitely, attenuated. A gas can be solidified. Carbonic acid gas has been so condensed, in the laboratory, under pressure, that it has become "hard," like marble. It is a common occurrence, in all latitudes, for hydrogen and oxygen gasses, when combined, in certain proportions, to form a liquid, called water; and, in the winter of northern latitudes, to form a solid, called ice. Any invisible substance or substances, whatever, however light, and whether combined or uncombined, may, "under certain conditions," be *condensed* into a material body, of more or less weight.

Tyndall "thus explains how the blue color of the sky depends and must depend on the existence of solid particles, excessively minute, diffused in infinite quantity through the atmosphere . . . . . . particles of matter that elude the microscope and the scales, ... and yet are present in it in so immense a multitude that the Hebrew hyperbole of the number of grains of sand on the sea-shore becomes comparatively unmeaning. And to give an idea of the minuteness of these particles, Tyndall adds that they might be condensed till they would all go into a lady's travelling-bag." (*Popular Science Monthly*, Sept., 1873, p. 549)

If the original condition of universal substance was what is called Mind, then mind might, "under certain conditions," become solid, liquid or æriform. Inasmuch as we find intelligence abroad in the universe; and inasmuch as we are constrained to recognize intelligence as proceeding from what we call mind; and inasmuch as mind appears to be superior to what we call matter, we will assume that mind was originally the universal substance, with power "under certain conditions" to act; in other words, to cause effects. Let us suppose then, that mind was, originally, the universal substance; and that it proceeded to act. We will suppose that it said:—"Let us create matter and forms of matter. Out of what shall we produce this creation? Out of nothing? No. That is impossible. We will create it from our own substance. How? There is no way we can do this, except by *condensing* ourself into solid, liquid and æriform substances. We so will, and it is done." Thus, the whole processes of nature, now known and yet to be discovered, were ordained by this original and universal substance called mind. It is true that this is an acknowledgment of the existence of intelligence, co-extensively and co-eternally with the original condition of universal substance. We are forced to acknowledge this, because we find intelligence at work *now;* because we find that human intelligence, to a certain extent, controls matter, and, by an effort of our wills, overcomes, for a time, certain laws which govern matter. Therefore, we are compelled to confess that mind is superior to matter; nevertheless, it is a product of matter; because the original and universal substance from which matter was condensed was the same substance uncondensed. Matter is mind condensed. Mind is matter not condensed. This reasoning, we freely admit, is based upon the idea that nothing solid, liquid or æriform can be made from a nonentity. We are, therefore, necessarily brought to the conclusion that the beginning of all things was from eternal substance, and that this substance was originally uncondensed mind. No thing can come of "nothing." Hence, condensation of mind is the process by which all that we behold in nature was produced. And thus, we are justified in saying:—"The Universe is God." The Poet is right when he says:—"Every thing is instinct with God." The Idealist is right when he declares:—"There is nothing but ideas;" which is equivalent to his saying,—"Mind is the universal substance; a solid, a liquid or a gas, when condensed, and mind, when not condensed." All substance condensed or not condensed; whether pure carbon, in the form of the diamond, the ~~heaviest~~ hardest thing known, or pure hydrogen, in the form of the gas of that name, the lightest thing known; whether mind, as known to us in the researches of Physics, or Spirit, as inferred by us, in the deductions of Metaphysics, it may be, for all we know, composed of "molecules." Taking a hint from Tyndall, (*ante* pp. 55, 56,) we might say that original substance was the universal "jelly" which he ascribes to the "interstellar medium," called *ether;* and that all things else, are, more or less condensations of this supposed universal substance. We advance no theory as to how the original substance originated. We find, now, that something is; and we infer that something always was. We rest our argument wholly upon the idea that matter must have been produced from original substance, and not from nothing.

Atoms or molecules, jelly or solid, attenuated gas or sublimated mind, it comes, all the same, on this theory, to a question of *Condensation!* Ponder this, ye Doubters. This pushes you to the extremest verge of your powers of reasoning. The best you can do is to refer the origination of all things to a Great Condenser! Suppose we admit this; it aids our argument; for whether the Great Uncondensed condensed matter out of himself, from his own substance, or whether it was a pure creation from nothing, it is equally certain, in the one case as well as in the other, that Mind *produced* Matter.

We find in all the methods of reasoning extant, on this great subject, that the whole question resolves itself into this:—Did matter have a beginning? Whether it was created from nothing, or was a self-condensation of preëxisting and highly attenuated intelligent substance, it is all the same. First Cause is discernable in both these cases. Matter, on the one hypothesis, would be imponderable intelligent substance converted, by itself, into ponderable non-intelligent substance; and, on the other hypothesis, would be the like intelligence creating these non-intelligent ponderable substances, not from an imponderable something, but absolutely from nothing. In either case, the *ponderable*, which matter alone is, assuredly had a beginning.

If the Doubter prefers to put the argument in the form of an *expansion* instead of a condensation of ultimate substance, he can do so; for, he has only to suppose it to have been a "solid" intelligent body containing substance sufficient to construct the Universe; mayhap, originally, only the size of a filbert, but so compacted that the diamond, for density, would be ten thousand times ten million billions of trillions lighter than hydrogen, in comparison with it; with this sum multiplied into itself so many times that the mind of man could not contemplate the product without bewilderment. Then it might, on this theory, be called the Great Expander; and, whether we take this hypothesis, or that of condensation, it would come, all the same, to Mind *producing* Matter; and matter would, just the same, have had a beginning; because this ultimate intelligent substance, of the size of a filbert, was originally mind, not matter. We might imagine a compression of universal mind into a nut-shell, as readily as Tyndall squeezes into a lady's travelling-bag all the innumerable particles which give to the sky its blue ; or, as easily as Pascal finds a universe in an atom.

> "Let man," says Pascal, "investigate the smallest things of all he knows ; let this dot of an insect, for instance, exhibit to him in its diminutive body parts incomparably more diminutive, jointed limbs, veins in those limbs, blood in those veins, in that blood humors, and drops within those humors—let him, still subdividing these finest points, exhaust his power of conception, and let the minutest object his fancy can shape be that one of which we are now speaking—he may, perhaps suppose that to be the extreme minuteness in Nature. I will make him discover yet a new abyss within it. I will draw for him not merely the visible universe, but all besides that his imagination can grasp, the immensity of Nature, within the confines of that imperceptible atom." (See *Popular Science Monthly*, Sept., 1873, p. 548.)

If we have correctly framed the issue, in our Initial Inquiry, viz., Did Matter have a beginning ? and if the Affirmative Proofs of the existence, throughout Nature, of laws of Order and Adaptation, are pertinent to that issue ; and if the Contradictory Proofs not only fail to disprove the existence of those laws, but acknowledge them ; then, in our Comparison of Proofs, we find an agreement on both sides, as to facts ; and the error, if any exists, is to be found in our deductions from those facts.

It will be seen that there are really no Contradictory Proofs on this "issue." We have brought it forward as one of Fact. The Materialist, however, does not deny our allegations of fact as to Order and Adaptation ; he puts in a "Demurrer." This raises an "Issue of Law" ; which is equivalent to his saying :—"I admit your facts, but what of it ? Your facts are right, but your conclusions are wrong."

Darwinism, so far as it tends to deny the existence of God altogether,—and it certainly has that tendency ; indeed, such is its logical conclusion, — should be considered, to some extent, in this, Division I ; but, so far as it concedes the existence of a "Creator" to *some* extent,—which it does, with more or less vagueness,—it should be considered as an attempt, on the part of its adherents, to overthrow the Bible ; and it should, therefore, be again considered, in this light, after we have forged those links in the chain of argument which we have started out to construct with the Bible *shut*.

When we open that Book, with the view of showing that it is what it purports to be, viz., a written revelation from God; and when we follow this by an effort to render its contents clear to our comprehension, we will deal, more immediately, not only with the Development Theory of Darwin, but with those Geologists who call the Mosaic record in question, and with all those subtle reasoners, generally, who, in greater or lesser degree, magnify science into something which must, necessarily, ignore the supernatural. (See *post*, Division IV., Part I., Sub. 10, entitled "The Bible consistent with Science.")

We claim that the natural presupposes the supernatural. Every fact or thought, must necessarily have something in antithesis with it. All reason is based on analogies; and analogies involve the idea of antitheses, or opposites. (*Ante*, p. 82.) Heat, which is molecular matter, or elementary atoms more or less in motion, is the antithesis of cold, which is molecular matter more or less at rest. Light, which is a translation of intensified heat, through the tremors of luminiferous ether impinged upon the retina of the eye, and thence transmitted to the brain or the organ of consciousness, [?] is the antithesis of darkness, which is the absence of molecular motion sufficient to agitate the luminiferous ether, which Tyndall says is "the occupant of all space." (*Ante*, p. 55.) This involves the theory that the luminiferous ether is a "homogenious" and continuous substance, in which all matter is "suspended" and moves. Move a body *en masse*, there is little or no perceptible change of "temperature." Agitate sufficiently the atoms of which it is composed, and heat is "felt"; that is, the epidermis is hit, with more or less force, by innumerable atoms, like a glister shot from a diminutive gun, at exceedingly short range. If the discharge is impelled by a light force the hit is transmitted from the epidermis, by the nerves of sense, which permeate the whole body, to the brain or organ of consciousness; and produces a comfortable feeling; which is to say that it agitates the molecular matter of the body just enough. If the discharge is impelled by a heavier force, the hit hurts ; because it is more than enough for comfort. And, if the discharge is impelled by a much heavier force, it not only discomforts, but may kill the body, by producing so great a molecular action, within it, that its particles become disorganized and disturbed to an extent sufficient to allow other natural agents to effect decomposition. Agitate them still more, and light is "seen ;" that is, the figurative shot, from this imaginary gun, with sufficient force, in the discharge, to intensify the molecular action, does not come in immediate contact with the epidermis, but only agitates the surrounding medium of transmission, through which the retina of the eye is affected. [These ideas of molecular motion will be amplified in Division VI., Part II., Subdivision~~s~~ ~~6,~~ 7.] In a cloudy night the heat of the sun, or molecular matter in motion in the sun, transmitted by the tremors of ether in space to the planets and thence reflected towards the Earth, is arrested by a denser medium enveloping the earth at our standpoint of observation, viz., clouds, and produces no impingement, or but a slight impingement, on the retina of the eye, to be therefrom transmitted to the brain or the organ of consciousness. White, which is said to be a combination of all the colors, is the antithesis of a single color or of a less number than all the colors combined. A solid, which is matter in close contact, so constituted and compacted that its molecules are "fixed," is the antithesis of a liquid which is matter whose atoms are so constituted and aggregated that its molecules "roll," or the antithesis of an æriform substance, *e. g.* gas, whose atoms are so constituted and disposed that its molecules "float" in the universal ether. Animal life, which is growing and reproducing matter associated with mind, is the antithesis of vegetable life, which is growing and reproducing matter *not* associated with mind. Both of the latter conditions of Life are called organic, because they have the vital principles of growth and reproduction ; and living organic matter, whether animal or vegetable, is the antithesis of inorganic matter, which is inert and has no vital principle of growth or reproduction, but is simply governed by laws of chemical or mechanical force. Chemical combination, which is the penetration of one elementary atom with another and different elementary atom, is the antithesis of cohesive attraction, which is the aggregation of elementary atoms thus combined, or not thus combined. Penetration is the antithesis of outward contact. Mind, which has the attribute of activity producing thought or intelligence, is the antithesis of matter, which is inert and has no activity, in itself, to produce thought or intelligence. Therefore, mind is the antithesis of matter; and matter invested with mind, is the antithesis of matter not invested with mind. A stone cannot think, while a living animal body can. Then, an inert unthinking body is the antithesis of a vital thinking body. Vital unthinking body is, likewise, the antithesis of vital thinking body. Hence, matter is definable, as solid, liquid or æriform; and mind is not definable as either. Pure matter is referrable, under the lights of science, to ultimate ponderable atoms; and mind, as the antithesis of matter, is referrable, under the same lights of science, to an ultimate something, imponderable; which is equivalent to saying that what is ponderable and appreciable by our senses, is the antithesis of what is imponderable and unappreciable by our senses. Matter moves. Motion is an effect and implies a cause. Effect is the antithesis of cause. Cause is the antithesis of preceding cause. Preceding cause is caused, until we come to a First Cause. First effect is the antithesis of First Cause. Last effect is the antithesis of both last and First Cause. Push the argument still further, and we may truly say:—Effects are in time. Secondary causes are effects of preceding causes. Secondary causes are also in time. The antithesis of all secondary causes is an ultimate First Cause. An ultimate First Cause is not in time. The antithesis of time is eternity. Therefore, again, by the best known principles of logic, all effects are caused, and all secondary causes are effects, referrable, finally, to an ultimate First Cause. By this process of reasoning, we may "ring the changes" on things known.; and, by tracing backward, *a posteriori*, what is known, we ultimately come to an antithesis of *something* unknown. It is not contrary to reason to say that ultimate matter was caused, and that ultimate mind was uncaused. The caused is the antithesis of the uncaused. Therefore, again, there are the caused and the uncaused. The caused we can comprehend because *we* were caused; and the uncaused we cannot comprehend, for the same reason, viz., we were *caused*. Mind coupled with matter can be brought to fully comprehend matter, and can fully perceive a dividing line between mind and matter; but mind coupled with matter cannot fully comprehend mind disconnected from matter; for mind thus coupled is imprisoned within the "finite"; and mind not thus coupled is freed from the finite and becomes part of the "infinite." The finite is the antithesis of the infinite. Therefore, again, matter coupled with mind is "mortal," and mind not coupled with matter is "immortal." Mortality is the antithesis of immortality. To be mortal involves the idea of the material part of a sentient body resolved into its original elements. Mortality is the certainty of coming death. The death of an animal organism, is matter divested of mind. The death of a vegetable organism is matter divested of the vital principle of non-sentient growth and reproduction. In either organism, whether animal or vegetable, whether life be referrable to mind or to protoplasm, or to both, death is the antithesis of life. "Nothing is lost." Death sends matter to its first condition of elementary atoms, or to some other combination of its chemical constituents. In animal organisms death resolves mind to its source, viz., the First Cause, which established the laws of Order and Adaptation; and, in vegetable organisms, death restores their vital principle, "life," to force, which is "saved up" by the same Intelligence. When mind thus leaves an animal organism, if the First Cause sees fit to embody and preserve its identity, as a "spirit," or as a "soul," or as an "angel," or as a "demon," or otherwise, he will. But whether he so wills or not, we cannot find out of ourselves. We can only get at it by "*supernatural* revelation," the necessity of which will occupy our attention in Division III.

The last paragraph contains some suggestions which are anticipatory; but we throw them in here in the belief that we ought not to rule out so formidable a school as immaterial witnesses on the present issue, without giving them a few parting words as they step aside.

NOTE. We have, thus far, omitted any discussion of the distinction between Mind and Spirit. We have referred to them as if they were convertable terms, and have used both as denoting intelligent substance in antithesis with matter. It is not necessary to go further, in this Division, than simply to intimate that there is a difference; but, in those which follow, especially in the VIth., we will find it essential to point out wherein the difference consists.

10. LOGICAL CONCLUSIONS.

When a youth, the author was brought in contact with a group of professed Infidels, who were admirers of such thinkers as Hume, Voltaire and Thomas Paine, and of such poets as Byron and Shelley. He soon discovered that this group were superficial observers, and that their arguments were illogical and rambling. They were scoffers, not reasoners. About this time, Paley's *Natural Theology*, a school book, from which we have already quoted, fell into his hands. It convinced him, by the most irrefragable proofs, that there is a God. He has not seen any single book since, containing an argument intended to prove that one fact, at once so fair and irresistably conclusive. Besides, its merits as a literary production are of the highest order. We have already remarked that new developments in scientific investigations can only render the evidences stated by Paley, cumulative, without impairing the conclusions he deduces from the comparatively limited number of facts he brings in review. We think that book has done such good service towards settling the question of the existence of a First Cause, that the schools of opposing thought extant when he wrote, were forced to give way and to adopt one new theory after another until we behold, at the present time, a class of thinkers who, while admitting the prevalence of Order and Adaptation, throughout nature, so relentlessly urged by him, have been compelled to deny that this harmony in nature necessarily proceeds from a designing mind. It is true that they hardly say it does not thus proceed ; but they substantially say that it *may* not. We have quoted extracts from some of their works, giving what we believe to be a sufficiently full statement of their best ascertained facts, together with a fair exposition of their reasoning upon those facts. While they contend that it may not, we think Paley has shown that it *must* have proceeded from design and not from chance; from an intelligent First Cause, and not from physical force, nor from any "physical basis of life."

Dr. McCosh devotes a number of pages to the elucidation of the nature of Chance, a few paragraphs from which we give, and recommend a perusal of the whole.

> "The argument from design, in behalf of the Divine existence, has sometimes been so stated as to make its main premiss a mere truism, and the whole argument a begging of the question. It sets out with the maxim, that whatever exhibits marks of design must have proceeded from a designing mind; but by exhibiting marks of design, is meant proceeding from a designing mind, and thus the whole ratiocination is nothing but the pompous repetition of the same proposition. When put in this way, the argument is easily repelled and turned against him who urges it. But it is not thus that it has been propounded by any skilful defender of religion.
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> "The argument from final cause, properly understood, is derived from those concurrences, and correspondences of agents to produce a given end, which every where fall under our notice. These mutual adaptations of different and independent powers are so numerous, so curious, and so beneficent, that they clearly show that there has been an Intelligent Being arranging them before hand. They cannot proceed from chance, and we therefore conclude that they must proceed from design.
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> "And this leads us to inquire what is meant by the word Chance, what is usually meant by it and what is the proper meaning of the phrase. A thousand errors have been lurking in the confused ideas afloat on this subject, and we must be allowed to say that we have seldom found the nature of chance thoroughly expounded, or the various meanings of the word distinctly stated. The ancient atheists argued that there was such a thing as chance, and ascribed to it the formation of the universe. Modern materialists and pantheists maintain that there is no such thing as chance, that there can be no such thing, and thence argue that there can be no traces of design, since all things proceed from a chain of physical or metaphysical causes. We are convinced that the one as well as the other of these parties is mistaken. We mean to show, in opposition to the modern, that there is such a thing as chance, and, in opposition to the ancient, that there adjustments in nature which cannot proceed from chance.
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> "In maintaining however, that there is really such a thing as chance, it is proper to announce that there connot be chance in this sense, that there is an event without a cause. It is not necessary in the present day to institute any proof of this; there is no principle more firmly established or more universally admitted. There may be a difference of opinion as to the nature of cause and effect, and a still greater diversity of view as to the nature of the belief in causation, whether it is derived from internal or external sources, but there is none as to the law or the fact

itself. It is admitted that in our world no event happens without a cause. In this sense chance does not exist. 'There is no such thing as chance,' says Hume. Some would say that it cannot so much as be conceived to exist.

"But still there are senses, and these most important senses, in which there may be said to be chance in our world. The word chance, and the corresponding words accident, casualty, fortuity, may be used, and have an intelligible meaning when used in *two different senses*." (*Typical Forms*, pp. 39, 40, 41.)

He then proceeds to point out those differences: 1st. As to events which happen so that we can see no reason why they should not have been otherwise; and 2d. As to things casually related to each other when the relation between them is not that of cause and effect, nor designed by the person producing them. (*Ibid.* pp. 41, 42.)

"So much, then, for casual as distinguished from causal connexion. But casual connexion may also be opposed to contrived connexion. It is needful to illustrate this; for it is a position of great importance in our argument. An agriculturist, let us suppose, is using the means necessary to secure a crop from his ground. Every step which he takes must have a causal connexion with something going before and something coming after; to this there can be no exceptions whatsoever. But among the many agencies he sets a-moving there will be some which have no discoverable mutual relation, while there will be others which very visibly have such a relation, which, we would have it observed, may either be casual or designed. Thus, it may be by accident, that he began to plough the land on the same day as he did the previous year; by chance, that the two horses in a particular plough are of the same age; that his harrows, constructed by different makers, are painted the same colour; that the workmen employed by him have the same Christian name; and that he has precisely the same extent of land in crop as in the previous year. There may be many such relations and correspondencies which persons of a particular turn of mind find pleasure in noticing, and this because they are purely casual. But there are other connexions which are not of this fortuitous character. It is not by accident that he begins his work about the same season as he did the previous year; that he has put two horses into his plough; that the ploughing has been followed by sowing and harrowing; that he has workmen engaged in tilling his ground, and a certain portion of his whole ground under cultivation. There is here an evident distinction between two sets of events, and this distinction does not arise from the one class having causes, whereas the others have not, nor from the two proceeding from altogether unconnected laws of collocation, but from the one being designed as a mean toward an end, and the other not being so designed, as having no reference to that end. This distinction between the concurrence of independent means intended to produce an end, and mere coincidences which promote no special end, is an all-important one in the argument from design or final cause." (*Ibid.* pp. 42, 43.)

He follows this with the declaration that "we cannot speak of an event being produced by chance"; and he continues to draw the distinction to be observed between the casual and the causal, with such clearness, and his illustrations are so apposite, that we are tempted to quote more.

" According to these views we cannot speak of an event being produced by chance. Such language has either no meaning, or a meaning opposed to the universally acknowledged principles of all science and all philosophy. In respect of causal connexion, chance has and can have no place; it is absolutely excluded. But in respect of other connexions of co-existence or succession, of number and property, there is room for chance, and, as opposed to chance, of designed coincidences and correspondences, and a co-operation of associated means for the production of a given end. In respect of production there can be no such thing as chance, but in respect of disposition there may. There are mutual relations which are not designed, even as there are relations which are designed. We cannot speak of accidental *occurrences*, but we may speak of accidental *concurrences*. We are to show that in the place where there is room for chance, there we have the most striking examples of design.

"It may be difficult at times to determine whether certain events or phenomena are conjoined by chance, or whether an arrangement has been made to produce the conjunction. It is no proof of an intended connexion that they have been conjoined once or twice, or a few times. Nor can any absolute rule be laid down as to frequency of co-existence, which shall decide every supposable case that may arise. But there are cases of designed concurrence so clear that they do not admit of a moment's hesitation. When we see independent agents all moving towards one end—when we see stone, lime, wood, glass, slate, and lead, all combined in a house—when we find various kinds of metals, and wheels, pulleys, cylinders, of various shapes and sizes, conjoined to produce a machine, we at once say the connexion cannot be accidental, but is the result of arrangements made to secure a contemplated end.

" Let us suppose that, on entering a room, we discover on a table before us five or six balls formed into a ring-like figure, we do not allow ourselves for one instant to imagine that the balls came hither of their own accord, and without any one placing them there; but it may be a question whether the mutual arrangements are involved in the figure are accidental or designed. This question would at once be settled if we saw other five balls on the same table formed into a similar figure. We would then acknowledge at once that there can be as little of accident in the mutual arrangement of the balls as in their being brought to this particular place.

" These distinctions and explanations enable us to bring out very distinctly the nature of the argument derived from adaptation of parts in favour of the existence of God.

" In physical nature we have the universal reign of causation, or every event connected with at least one other event as its cause, and yet another event as its consequence. In regard to this point there is no difference of opinion. But in perfect consistency with this doctrine we may find a number of events occurring at the same time or place, or nearly at the same time or place, or having some sort of bearing towards each other of a purely accidental character. In this sense there is no doubt much of chance in this world, that is, many events have some sort of discoverable relation, which may yet have no intended connexion. The year in which a comet blazes in the heavens may be a year of famine or of fearful wars and intestine feuds, but this does not go to prove that the one was meant to forebode the other. We are quite willing to admit that all these phenomena can be traced up to God—we are sure that God foreordained both the comet and the famine; but it is quite a different thing to affirm that the two have a designed connexion with each other. Every scar upon the rocks of our earth may have been produced by causes set in operation by God, but this will not convince us that there is deep design on the part of God in presenting to us, here and there, on these rocks, a figure, which men discover to bear a rude resemblance to the face of George III., of Nelson, or Napoleon Bonaparte. The fact that there are accidental concurrences, in the sense now explained, will not be urged, by any one who seriously reflects upon the subject, as proving this world is not the product of design, and that there is not design in every department of it. In the works of man which exhibit the clearest signs of contrivance, it is not found that every one part of the work has an intended relation to every other. In the construction of the walls of a church there may be the most careful attention implied in the way in which the stones are made to fit into each other, but it may all the while be purely accidental that two stones of much the same size, weight, or colour, are placed exactly opposite each other.

"But wherever there may be chance, there may surely be design likewise. If there may be coincidences which are casual, there may also be concurrences which are contemplated. It is in the very place where there might be accident that we discover the clearest and most convincing evidences of design. Upon observing a number of separate forces acting in union and harmony, we must believe that there has been a designing mind bringing them together and causing them to co-operate. When we see these agencies working in happiest association to produce innumerable effects of a beneficent character—when we find them consenting and consorting throughout thousands or myriads of years or geological ages, the evidence is felt to be overwhelming beyond the power of human calculation. Yet this is the sort of conjunctions and co-operations which is constantly presenting itself to our view. We observe everywhere a host of separate bodies and powers, all tending towards a particular end;—say a number of material substances with the vital agency, the heat agency, the light agency the electric agency, all conspiring to the production of a living plant or animal; or bone, nerves, and muscles, meeting to give an easy motion to a limb. 'How, often,' asks Tillotson, 'might a man, after he had jumbled a set of letters in a bag, fling them out upon the ground before they would fall into an exact poem, yea, or so much as make a good discourse in prose? And may not a little book be as easily made by chance as this great volume of the world? How long might a man be sprinkling colours upon canvas, with a careless hand, before they would happen to make the exact picture of a man? And is a man easier made by chance than this picture? How long might twenty thousand blind men, which should be sent out from the several remote parts of England, wander up and down before they would all meet upon Salisbury Plains, and fall into rank and file in the exact order of an army? And yet this is much more easy to be imagined than that the innumerable blind parts of matter should rendevous themselves into a world.'

"We have the mathematical theory on this subject, with a most important application, laid down by an eminent living mathematician. After stating that when we have a question of pure numbers we can absolutely try the question with chance in precisely the same manner in natural theology as we try it in the common affairs of life, Professor De Morgan thus proceeds: (De Morgan's Essay on Probability, p. 25.)

> 'Let us assume, as we must, that a number produced by chance alone, (in the anti-deistical sense of the word,) might as well have been any other as what it is. And further, let us require, before we grant intelligence and contrivance, not merely the presence of an adaptation, which would have been unlikely from chance alone, but two such phenomena perfectly distinct from each other considered as phenomena, each of which might have existed without the other, and both tending to the same object, which would have been defeated by the absence of either. Let it be also granted, to fix our ideas, that we admit as proved a proposition which has a hundred million to one in its favor. This being premised, and laying it down as our object to shew that the necessary result of the theory of probabilities lead to the conclusion that the existence of contrivance is made at least as certain, by *means of it*, as any other result which can come from it, we proceed to state a consequence. The action of the planets upon each other, and that of the sun upon all, (the most certain law of the universe,) would not produce a permanent system, unless certain other conditions were fulfilled which do not necessarily follow from the law of attraction. The latter might have existed without the former, or the former without the latter, for anything we know to the contrary. [An important note is here appended:—' The only way in which we can guess any two things to be independent. It must be remembered as a result of the theory, that of things perfectly unknown, the probability of their coming to act, when known, against an argument is counterbalanced by the equal probability of the future discovery being on the other side.'] Two of these conditions are, that the orbital motions must be all in the same direction, and also that the inclinations of the planes of these orbits must not be considerable. Granting a planetary system, which is what ours is in every respect, except either of these two, and it is mathematically shewn that such a system must go to ruin; its planets would not preserve their distances from the sun. Neither of these phenomena can be shewn to depend necessarily on the other, or on any law which regulates the system in general. For anything we know to the contrary, then, they are distinct and independent circumstances of the organization of the whole. Now, let us see what are the phenomena in question.
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> '1. All the eleven planets yet discovered" [that is, when the work was written] " move in one direction round the sun. 2. Taking one of them (the earth) as a standard, the sum of all the angles made by the planes of the orbits of the remaining ten with the plane of the earth's orbit, is less than a right angle, whereas it might by possibility have been ten right angles.
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> 'Now, it will hereafter be shewn that causes are likely or unlikely, just in the same proportion that it is likely or unlikely that observed events should follow from them. The most probable cause is that from which the observed event could most easily have arisen Taking it, then, as certain that the preceding phenomena would have followed from design, if such had existed, seeing that they are absolutely necessary, *ceteris manentibus*, to the maintenance of a system which that design, if it exist, actually has organized, we proceed to inquire what prospect there would have been of such a concurrence of circumstances if a state of chance had been the only antecedent. With regard to the sameness of the directions, either of which might have been from west to east, or from east to west, the case is precisely similar to the following:—There is a lottery containing black and white balls, from each drawing of which it is as likely a black ball shall arise as a white one, what is the chance of drawing eleven balls all white?—Answer, 2047 to one against it. With regard to the other question, our position is this:—There is a lottery containing an infinite number of counters, marked with all possible different angles less than a right angle, in such a manner that any angle is as likely to be drawn as another, so that in 10 drawings the sum of the angles drawn may be anything under 10 right angles. Now what is the chance of ten drawings giving collectively less than one right angle?—Answer, 10,000,000 to one against it. Now, what is the chance of both these events coming together?—Answer, more than 20,000,000,000 to one against it. It is consequently of the same degree of probability that there has been something at work which is not chance in the formation of the solar system. And the preceding does not involve a line of argument addressed to our perception of beauty or utility, but one which is applied every day, numerically or not, to the common business of life.'

"We have quoted this passage mainly for the mathematical principles which it unfolds. Since the treatise was written a great number of small planets have been discovered. These all run in the same direction as the planets previously discovered, and so add enormously to the weight of the argument. It is true that the inclination of some of them is considerable, but their mass is so diminutive that this circumstance is not fitted to produce any permanent disturbance. [See Herschel's " Outlines of Astronomy," p. 453. Should it be said all these conditions can be accounted for by the hypothesis of the cooling and shrinking of a rotating mass of heated cosmical matter the answer is, that in order to the production of a world like ours out of such matter, there is need of a whole host of adjustments or collocations. This subject will be formally taken up in the chapter of the next Book which treats of the Adjustments of Celestial Phenomena.]

"This is the argument from 'Final Cause,' as it is commonly called. At the same time we are inclined to look upon the phrase as rather an unhappy one. The word, according to the all but invariable usage of our tongue, points to that which has efficiency; and there is nothing of the nature of power implied in the great class of facts which we are now advancing. In this branch of investigation we are contemplating not so much a cause, as an end aimed at, by a combination of means, by a concurrence of causes. The science which treats of the relation of means and ends has an unexceptionable name applied to it, and is called teleology. It would serve several important ends to have an equally good phrase to denote the class of facts which it is the business of that science to explore. As 'typos' and 'cosmos' have been naturalized into our language, we wish that some high authority would introduce 'telos' likewise. In the absence of any such authorized phrase we shall be obliged to employ final cause, or, in lieu of it, such terms as aim and purpose, end and special end. We are to shew that throughout the whole of nature there is a union and co-operation of means for the production of what are evidently ends, and such special ends as argue a living being arranging the means in order to their accomplishment.

"It is not necessary, in order to the conclusiveness of such an argument, that we should be able to say that we have discovered the *ultimate* end aimed at in all these concurrences of means to produce anterior or intermediate ends. There are persons who seek to cloak the hideousness of their atheism under the guise of an affected humility, urging it is not for them to be so presumptuous as to pretend to detect the purposes of Deity. And there might have been some plausibility in this pretext, provided it had been necessary, in order to the validity of the argument, to determine the grand ultimate design of creation. But it is by no means requisite in order to prove the existence of design that we should be able to fathom all the depths of the Divine counsels, and settle what is the last end of the Creator's work. On seeing Napoleon Bonaparte gathering his army to a given point—on finding one battallion coming from one province and other battallions collecting from other provinces, distant from the first and from each other, persons would have been entitled to conclude that these were means, and well-devised means, to an end, and this though entirely ignorant of the ultimate purpose to be effected by the subordinate ends; it would be enough for them that they discovered the immediate end and the means employed to accomplish it. On precisely the same grounds are we justified in maintaining that we observe in nature a singular combination of means towards the production of an end. This end may not be the final end of creation, but still it is an end—a subordinate end, aimed at by a combination of means arranged by intelligence. Nor can this inference be at all affected by the circumstance that these ends are commonly found to be means towards some other and a higher end. In God's works all the means are ends, and all the ends are means, and all means and subordinate ends are obviously concurring towards a final consummation, which man can not fully compass, but which he has abundant reason—from the tendency of the inferior ends—to regard as at once grand and beneficent.

"The argument advanced under this head seems a complete one in itself. It does not require in order to its conclusiveness that it should be proven that this world has had a beginning, nor to look to any physical facts except those adduced in the premises. The adjustment of the bodies and forces of nature so as to produce harmonious and useful results, is in itself a proof of an arrangement not casual but planned by intelligence. We require not, in order to its conclusiveness, to specify the time when the adjustments were constituted, nor to shew that God has created matter as well as arranged it, nor even so much as that matter has had a beginning. These other truths may be established more satisfactorily after it has been demonstrated, from the design manifested in the universe, that there is a God the author of the design.

Dr. McCosh here seems to differ from us as to the importance of the inquiry,—Did matter have a beginning? The argument from design is to him, as it is to ourself, of great force without it; but he would seem to be willing to defer that inquiry and to finally draw the same logical conclusion that we do, viz., that matter had a beginning; while we consider the full strength of the argument not brought out unless we *start* with that inquiry. He is far from ignoring it; neither does he treat it as of slight importance. We only differ with him as to the prominence which ought to be given to it, in such a discussion. (See *ante* p. 73, and *passim*.)

"The force of the argument now adduced is not to be turned aside by going back in the chain of causation, and shewing how each of the combined circumstances, which form this means towards an end, has proceeded from a cause. We are not to discard final causes, as Laplace used to do so summarily, as soon as the physical cause of the individual circumstance is pointed out. Nor are we, with Kant, to lay down the principle that we are at liberty to call in final cause only when mechanical cause fails to account for each particular fact. The argument which we adduce in favor of final cause is derived from the wonderful combination of physical causes. It is freely admitted, that in the material universe every phenomenon has had a cause, but this does not weaken the argument founded on the correspondence between a number of associated phenomena, proceeding from different and independent causes. No doubt it forces us to acknowledge that there has been a correspondence in the causes producing such concordant results, but in carrying us back thus far it only opens up larger views of the wisdom and foresight involved in a plan which contemplated such far-reaching consequences. In Divine workmanship, as also in the higher kinds of human workmanship, order and utility are commonly produced by a long previously arranged consortment of means or causes. For example, the crop which the cultivated ground yields is the result of a vast number of preparations, human and Divine too, made long before. It is the peculiarity of the Divine workmanship that we can see in it a set of causes so ordered that they can produce a series or succession of orderly and benign results going on from age to age. The plants and animals now on the earth have all proceeded from progenitors created many thousand years ago, and which were so constituted as to produce an offspring after their kind. To argue from the succession of such effects that they are not designed, is to make the very beauty and perfection of the work a proof that it has not proceeded from an intelligent being.

"Nor is the force of the argument to be weakened by the attempt to discover an alleged contradiction; if everything, it is said, comes from God, there can be nothing casual, there is no room for chance, and therefore no room for design as distinguished from chance. Now, it is at once admitted that every physical occurrence may be regarded as proceeding from God; at this point, that is, in regard to the production of the event, there is no room for accident. But while every event comes from God, this does not prove that the coincidences between every two events were designed by Him to produce a specific end. God has no doubt appointed both the eclipse and plague which may have happened the same year, but this does not prove that He designed the one dark event to foreshadow the other. As there may be casual relations in nature, so there may be, so there are, in nature designed concurrences, as distinguished from accidental coincidences. All that is now occurring is doubtless the result of collocations previously made, and in tracing it back we must come to certain original collocations. At this point physical research stops, but all inquiry is not arrested. The mind asks, whence this systematic collocation of agents and forces which has produced such good and useful results for thousands, or it may be, millions of years? The present so full of order carries us back to the past as also full of order, and shews that the system now in operation had been planned from the beginning.

"Still less is the force of the argument to be evaded by the miserable subterfuge of certain French materialists, who tell us that this consorting of means and ends is the mere condition of existence. When it is found, for example, that certain independent members of carnivorous animals are in admirable harmony, the limbs for running after the prey, the claws for seizing it, the muscles for keeping hold of it, the teeth for tearing it, and the stomach for digesting it, an attempt is made to avoid the force of the appeal by urging that these are the conditions of the existence of the animal. True, we reply, but the argument is derived from the circumstance that these independent conditions should meet so as to enable the animal to exist and to enjoy existence. He who brings in the principle of the conditions of existence will find it, if legitimately followed out, landing him in a designing intelligence no less certainly than the principle of final cause does. The argument, whether for or against theism, is not to be made to depend on a word or the shifting of a word. It is not to be established on the one side by a verbal sophism about design implying a designer, but neither is its overwhelming force to be turned aside by changing the word final cause for conditions of existence. It seems that conditions are necessary to certain existences, and it is the concurrence of these conditions, proceeding from various and independent quarters, which proves so irresistibly that there must have been design in their arrangement and collocation." (*Ibid*, pp. 44 to 56.)

He goes on from the "Nature of Chance" to speak of "The Obviousness and Completeness of the Special Adaptations."

"The argument from adaptation to a particular end is one which addresses itself to every human being. It is suited to every intellect, and comes home to every man's experience." (*Ibid*, p. 56.)

He then argues and illustrates, at considerable length, and in his forcible style, these points :

"1. Every manual labourer may see something analogous to the art by which he earns his livelihood operating among the natural objects by which he is surrounded." . . . . (*Ibid*, pp. 56 to 59.)

"2. Every kind of contrivance, every principle of mechanism used by man, is visibly employed in the operations of Nature." . . . . (*Ibid*, pp. 59 to 63.)

"3. Among the most curious special modifications are those in which there is a provision made beforehand for the support of living creatures not yet in existence." . . . . . . (*Ibid*, pp. 63, 64.)

"4. Not only are the different parts of the animal and plant suited to each other, but there is a perfectability about them—they are better adapted than any thing else to the accomplishment of their end." . . . . . . (*Ibid*, pp. 64, 65, 66.)

"5. It is a circumstance of great significance, that parts of animals which, to superficial observers, might seem useless, or even cumbersome and inconvenient, have been found, in the progress of discovery, to serve most important ends in the economy of life." . . . . . . (*Ibid*, pp. 66, 67, 68.)

His entire work from which these last quotations are made covers over 500 pages, which illustrate in detail the prevalence, throughout Nature, of thoughtful design and contrivance ; and he deduces from the multiplicity of facts which he brings in array, the irresistable conclusion that God exists.

Paley gives this general statement of his argument in the opening chapter :

"In crossing a heath, suppose I pitched my foot against a stone, and were asked how the stone came to be there ; I might possibly answer, that, for anything I knew to the contrary, it had lain there forever ; nor would it perhaps be very easy to show the absurdity of this answer. But suppose I had found a watch upon the ground, and it should be inquired how the watch happened to be in that place ; I should hardly think of the answer which I had before given, that, for anything I knew the watch might have always been there. Yet why should not this answer serve for the watch as well as for the stone ? Why is it not as admissible in the second case, as in the first ? For this reason, and for no other, viz., that when we come to inspect the watch, we perceive (what we could not discover in the stone) that its several parts are framed and put together for a purpose, e. g., that they are so formed and adjusted as to produce motion, and that motion so regulated as to point out the hour of the day ; that if the different parts had been differently shaped from what they are of a different size from what they are, or placed after any other manner or in any other order than that in which they are placed, either no motion at all would have been carried on in the machine, or none which would have answered the use that is now served by it. To reckon up a few of the plainest of these parts, and of their offices, all tending to one result; (See Plate 1.)—We see a cylindrical box containing a coiled elastic spring, which, by its endeavor to relax itself, turns round the box. We next observe a flexible chain (artificially wrought for the sake of flexure) communicating the action of the spring from the box to the fusee. We then find a series of wheels, the teeth of which catch in and apply to each other, conducting the motion from the fusee to the balance, and from the balance to the pointer, and at the same time, by the size and shape of those wheels, so regulating that motion, as to terminate in causing an index, by an equable and measured progression, to pass over a given space in a given time. We take notice that the wheels are made of brass in order to keep them from rust; the springs of steel, no other metal being so elastic; that over the face of the watch there is placed a glass, a material employed in no other part of the work; but in the room of which, if there had been any other than a transparent substance, the hour could not be seen without opening the case. This mechanism being observed (it requires indeed an examination of the instrument, and perhaps some previous knowledge of the subject, to perceive and understand it; but being once, as we have said, observed and understood,) the inference, we think, is inevitable; that the watch must have had a maker; that there must have existed, at some time, and at some place or other, an articifer or articifers, who formed it for the purpose which we find it actually to answer; who comprehended its construction, and designed its use.

"I. Nor would it, I apprehend, weaken the conclusion that we had never seen a watch made; that we had never known an artist capable of making one; that we were altogether incapable of executing such a piece of workmanship ourselves, or of understanding in what manner it was performed; all this being no more than what is true of some exquisite remains of ancient art, of some lost arts, and to the generality of mankind, of the more curious productions of modern manufacture. Does one man in a million know how oval frames are turned? Ignorance of this kind exalts our opinion of the unseen and unknown artist's skill, if he be unseen and unknown, but raises no doubt in our minds of the existence and agency of such an artist, at some former time, and in some place or other. Nor can I perceive that it varies at all the inference, whether the question arise concerning a human agent, or concerning an agent of a different species, or an agent possessing, in some respects, a different nature.

"II. Neither, secondly, would it invalidate our conclusion, that the watch sometimes went wrong, or that it seldom went exactly right. The purpose of the machinery, the design and the designer, might be evident, and in the case supposed would be evident, in whatever way we accounted for the irregularity of the movement, or whether we could account for it or not. It is not necessary that a machine be perfect, in order to show with what design it was made, still less necessary, where the only question is, whether it were made with any design at all.

"III. Nor thirdly, would it bring any uncertainty into the argument, if there were a few parts of the watch, concerning which we could not discover, or had not yet discovered, in what they conduced to the general effect, or even some parts, concerning which we could not ascertain whether they conduced to that effect in any manner whatever. For, as to the first branch of the case; if by the loss, or disorder, or decay of the parts in question, the movement of the watch were found in fact to be stopped, or disturbed, or retarded, no doubt would remain in our minds as to the utility or intention of these parts, although we should be unable to investigate the manner according to which, or the connexion by which, the ultimate effect dependent upon their action or assistance; and the more complex is the machine, the more likely is this obscurity to arise. Then as to the second thing supposed, namely, that there were parts which might be spared, without prejudice to the movement of the watch, and that we had proved this by experiment—these superfluous parts, even if we were completely assured that they were such, would not vacate the reasoning which we had instituted concerning other parts. The indication of contrivance remained, with respect to them, nearly as it was before.

"IV. Nor fourthly, would any man in his senses think the existence of the watch, with its various machinery, accounted for, by being told that it was one out of possible combinations of material forms; that whatever he had found in the place where he found the watch, must have contained some internal configuration or other; and that this configuration might be the structure now exhibited, viz., of the works of a watch, as well as a different structure.

"V. Nor fifthly, would it yield his enquiry more satisfaction to be answered, that there existed in things a principle of order, which had disposed the parts of the watch into their present form and situation. He never knew a watch made by the principle of order; nor can he even form to himself an idea of what is meant by a principle of order distinct from the intelligence of the watchmaker.

"VI. Sixthly, he would be surprised to hear that the mechanism of the watch was no proof of contrivance; only a motive to induce the mind to think so.

"VII. And less surprised to be informed, that the watch in his hand was nothing more than the result of the laws of *metallic* nature. It is a perversion of languge to assign any law as the efficient, operative cause of anything. A law presupposes an agent; for it is only the mode according to which an agent proceeds; it implies a power; for it is order, according to which that power acts. Without this agent, without this power; which are both distinct from itself, the *law* does nothing; is nothing. The expression, 'the law of metallic nature' may sound strange and harsh to a philosophic ear; but it seems quite as justifiable as some others which are more familiar to him, such as 'the law of vegetable nature,' 'the law of animal nature,' or indeed as 'the law of nature,' in general, when assigned as the cause of phenomena, in exclusion of agency and power; or when it is substituted into the place of these.

"VIII. Neither, lastly, would our observer be driven out of his conclusion, or from his confidence in its truth, by being told that he knew nothing at all about the matter. He knows enough for his argument. He knows the utility of the end. He knows the subserviency and adaptation of the means to the end. These points being known, his ignorance of other points, his doubts concerning other points, affect not the certainty of his reasoning. The consciousness of knowing little need not beget a distrust of that which he does know." (*Natural Theology*, pp. 5–8.)

With this first Chapter (which we have given entire,) as a foretaste, how can the Doubter refrain from reading the second entitled "State of the Argument continued," and the third entitled "Application of the Argument," and, so on, one after another, in succession, until he comes to the 27th and last, entitled "Conclusion"? We can, now, only make room for the concluding Chapter, and bespeak for all the Chapters an attentive reading. We cannot see how any one can rise from its perusal without being fully possessed with the belief that God exists.

[Here insert.]

Paley possessed a master mind. He is preëminently, the great representative writer on *Natural Theology;* and we think Dr. McCosh comes next. Although both were theologians, both rank as "men of science." The latest of these authors has had the advantage over his predecessor, because he has lived in a generation where the developments of science have eclipsed all the researches of the recorded past; and because he has had superior advantages in the multiplication of books by the advanced art of printing, and in modern appliances of new inventions and discoveries.

Referring to the recent discoveries as to a *harmony of structure* running through the whole organic kingdoms, Dr. McCosh observes: "We have here a class of phenomena to which Paley has never once alluded in his *Natural Theology*, and which are referred to only in an incidental manner, and without their meaning being apprehended, in one or two passages of the *Bridgewater Treatises.* The authors of these works are not to be blamed for this omission, for, in their day, the facts had not been discovered, or, at least, admitted into acknowledged science. But now that they have taken their place, and that a very high place, among settled doctrines, it is time to examine their religious import and tendency. They will be found not to be isolated and exceptional in their character, but to belong to a large and wide-spread class, possessing a deep theological signification." (*Typical Forms,* pp. 27, 28.)

Paley wrote at the beginning of the present century. McCosh writes while its third quarter is nearly past. The interval which lies between their efforts has seen rapid progress in Physics and Metaphysics, in Chemistry and Mechanics, in Science and Theory, transcending, in quantity and quality, all that preceded the era in which Paley dwelt. These advantages considered, in favor of McCosh, Paley stands out, prominently, as the greater prodigy of the two. Both are great ; the works of both will be accepted as standards, for a long time, as exponents of the truths underlying Natural Theology—Paley as the pioneer, McCosh as the utilizer. Take the works of this couple, together ; follow them, attentively, through their processes of reasoning ; and we are confident that the Doubter will find no avenue of escape from the Logical Conclusion that all things known or knowable are finally referrable to a First Cause, called GOD.

All the Author can hope to do, in the field of investigation which belongs to the inquiry as to the existence of God, is to present the salient points propounded and enforced by such representative thinkers as Paley and McCosh ; and to supplement their conclusions with corroborative and cumulative reasonings of a few other astute thinkers in the same department of learning.

Let us read further from the pages of McCosh :

> "The argument from design is that there are evidences everywhere, in heaven and in earth, in plant and animal, of natural agents being so fitted to each other, and so combining to produce a beneficent end as to show that intelligence must have been employed in co-ordinating and arranging them. When unfolded, it comprises a body of facts, and it involves a principle. The principle is that an effect implies a cause. . . . . . The argument is one which commends itself to all minds, though it is put into shape only by the logician and the expounder of natural theology. The child finds the impression stealing in upon him, as he inspects the curious objects around him,—the fir cone, the flower, the berry, the structure of his favorite animal, or those lights kindled nightly in the heavens, or as he is taught to connect these daily gifts with God the giver. The peasant, the savage, feels it, as he sees the grass and trees springing and growing and bearing seed, as he is led to observe the self-preserving instincts of the brute creatures, as he takes a passing survey of the wondrous provision for sustaining life in his own frame, or finds himself furnished with food and clothing by very complicated arrangements." . . . (*Christianity and Positivism*, pp. 1, 2.)
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> "Flowing spontaneously into the minds of all the conviction will force itself into the innermost heart of the speculative unbeliever. 'No one,' said David Hume, as he walked home one beautiful evening with a friend, 'can look up to that sky without feeling that it must have been put in order by an intelligent being.' 'But who made all these things?' was the curt reply of Napoleon Bonaparte, who had been obliged to listen to

the wretched sophistries of a set of French atheists, bred in the bloody revolutionary period,—"but who made all these things?" pointing to the heavens." (*Ibid.*, pp. 2, 3.)

Clark observes:

"The form of the argument I wish to introduce for your consideration is identical, up to a certain point, with just such a one as would be advanced to prove the prevalence of independent physical law as a controlling power; but beyond that point I hope I shall be able to show that it may be used as evidence of a *thoughtful design* to produce a *succession* of events, or a combination of contemporaneous, independent phenomena. (*Mind in Nature*, p. 5.)

Assuming some of the facts of the Development Theory to be true, Mr. Clark adds:

"In the succession of beings from a lower to a higher type, and a concentaneous greater degree of complication, we have the strongest proof of an intelligent being, designing, ordaining and controlling. The laws of the older physicists were not claimed to be derived from intelligence; they were deemed to exhibit the necessary operations of matter upon matter; but when we see that these laws have an order; and, as they are understood at the present day, a *rate of succession* in their operations, which have the stamp of thoughtfulness impressed upon them, it is impossible not to discover that they do not work of their own accord, but are controlled by a creative forethought and design. If the product of these causes was a heterogeneous mixture of beings, with no relation whatever among themselves, then we might more plausibly claim that the so-called physical causes had produced living creatures. As it is, though we have before us animals allied to each other by *progressive* relations, which finally, if we follow them up, end in the highest forms of life at the present day, from having begun with the lowest and ascended. What mere non-intelligent causation could produce the like?" (*Mind in Nature*, p. 5.)

Dr. A. A. Hodge observes:

"If God be not the creator of substance *ex nihilo*, as well as the former of worlds and of things, he cannot be absolutely sovereign. . . . . On every hand he would be limited and conditioned by the self-existent qualities of preëxistent substance, and their endless consequences. . . . . The same traces of designed and precalculated correspondences may be clearly observed in the elementary and essential properties and laws of matter that are observed in the adjustments of matter in the existing forms of the world. If the traces of design observed in the existing forms of the world prove the existence of an intelligent former, for the same reason the traces of design in the elementary constitution of matter proves the existence of an intelligent creator of those elements out of nothing." (*Commentary on Confession of Faith*, p. 117.)

Horace Greeley, in an Address delivered at the laying of the corner stone of Buchtel College, Ohio, July 4th, 1871, and published in the N. Y. *Daily Tribune* of Sept. 21, 1872, declares his belief in the existence of God and gives reasons which are worthy of a place here.

"To the piercing gaze of the astronomer, the universe is revealed as an innumerable multitude of orbs or globes circling through a practical infinity of space. These globes, being opaque and of such consistency that one is necessarily excluded from points occupied by any other, he distinguishes their substance from the surrounding void as Matter, without meaning to affirm the absolute non-existence of Matter in any portion of Space. Unable to conceive either that the heavens are veritably boundless, or what can exist outside of them if they have visible limits, he confesses his apprehension is finite, and that there are doubtless far more worlds without than within the range of his most powerful telescope. Unable to see how the universe can have had a beginning, he is equally unable to conceive of it as having existed from all eternity. That it certainly has not always existed substantially as it now is, the little he can gather of its history abundantly demonstrates. Though our solar system may be comparatively modern, and though our planet is doubtless younger than the sun around which it revolves, Science demonstrates not only its vast antiquity, but the fact that it has undergone signal mutations, and was long uninhabited and incapable of supporting animal life. By many concurrent and irresistible testimonies, we are well assured that the firm earth whereon we tread was long a wandering cloud of heated vapor —possibly resembling in substance if not in form a modern comet—that this formless mass, whirling through space, but kept within an orbit not unlike its present by the sun's attraction, gradually cooled, and contracted, hardening into rock at its surface, until it had slowly assumed nearly the shape it still wears. Still heated by internal fires which have since receded further from its surface, it generated clouds of vapor which, ascending to a colder region skyward, were there congealed into rain, which profusely, persistently fell, washing and scouring the surface of the rocks, and triturating them against each other until their faces were ground into dust, which now forms the mineral portion of the soil. Heat and light, freely imparted from the sun, blending with moisture and earth, at length produced vegetation; this was followed in time by simpler and then by more complex forms of animal life; until at length Man appeared, "the roof and crown of things" material and celluric, the being infinite in faculty, the master and lord of this visible world.

"Such, as I read them, are the rude outlines of the mode in which all whereof we have knowledge came to pass; and the question at once arises: What and whence their impulse? or was none needed? Did the blind, inert, unconscious, soulless matter which was once all fog, then hardened into rock, gradually shape itself into living organisms, ascending step by step from lower to higher, until it became at length Cæsar, Charlemagne, Shakespeare, Goethe, Byron, Napoleon? There are those who talk sonorously, stridently of Law—of the Law of Development or Progress—as though they had found in a word a key which unlocks all the mysteries of creation. But I am not silenced by a word: I demand its meaning, and then seek to determine how far that meaning bridges the gulf which the word was invoked to overleap. To my apprehension, Law is the dictate of an intelligent will, or it is nothing. That it should please the Author of all things to make each material body to attract every other in a ratio proportioned to their relative weight, and with an intensity corresponding to their distance from each other, I readily comprehend; that such attraction should inhere in and become inseparable from matter as an unprompted impulse, and inevitable property, I cannot conceive. To my apprehension, Gravitation, Magnetic Attraction, Electricity, &c., are properties of matter which in themselves afford proofs of Creative purpose, of Omnipotent design. In short, whatever demonstrates the presence of Law in Nature attests the being and power of God."

Dr. Squier, in his work entitled *The Being of God*, from which we have already quoted, (*ante*, pp. 74, 75,) gives these as his conclusions :—

"1. *Something is.* This is the testimony of reason, of consciousness, and of the senses. There is infallible truth in this position. If I think, I am ; for only that which is, can think. How can we have secondary phenomena without the primary, or actions and words without being and thought ?

"We are conscious both of acting and of being. Some good writers have given up this last position, but without sufficient reason. There is in the soul a consciousness of existing as well as of acting, of being as well as behaving. This consciousness of self as being and acting is infallible in its instruction, that something is--that we ourselves are, and have faculties and powers, convictions and feelings, intelligence, emotions and passions, observation and experience. In no other way could knowledge be more infallible, or be possible independent of it ; and it is worse than idle to call in question the universal and necessary convictions of humanity on this point.

"The senses, too, are sure sources and media of instruction ; and we distinguish the 'me' from the 'not me.' The eye, the ear, the touch, the taste, the smell, all are channels of knowledge to us from an external world, and methods of our access to it and communion with it. Only by these and like ways could we be put in communication with material objects, and become cognizant of the universe around us. And this linking of the 'me' to the 'not me' of external nature is a wonderful economy, yet fully authenticated.

"Thus we have various means of coming to the knowledge that something is. We are ; others are ; suns and planets are, and all the universal cosmos of created things. This we may affirm with the certainty of clearly apprehended truth, without troubling ourselves with speculations about the presentative or representative methods of inquiry. Science and common sense agree here. This conviction comes to us with a thousand voices, from within and without, as the universal language of humanity, so that we need not prolong an argument in proof of that which every one feels and knows.

"2. *Effects are.* We do not need to prove that man did not create the sun, or himself, or anything else. We know he did not. It is an undeniable position. And yet there are effects. The intelligence sees them to be so. Matter is ; and it is meted, bounded and limited, and must have been meted, bounded and limited by what was outside and independent of itself. It is, because it was made to be, and was put into existence by a power before and extraneous to itself. It is, as it is, and where it is, by reason of something else. At most, it is but a '*causa causata.*' We see it to be, and to contain only the '*vis inertiæ.*' It is finite, and some being must have made it. It is a creation, and in itself an inert effect. Philosophy and common sense, reason and revelation, intelligence and the senses, agree in affirming this. We arrive at it as surely as we do at the truth, that the whole is equal to the sum of its parts ; that matter exists in space, and events in time ; and that he who acts, is.

"Men dive deeper than the truth sometimes, and show themselves more like muck-worms than philosophers. All science takes rise in the intuitions of the intelligence. Demonstration is in aid of intuitional apprehension. The first truths of reason need no demonstration ; they are intuitionally self-evident ; they are infallibly seen in the mind's own light. Why undertake to prove to me that which already is a matter of my own consciousness, or which exists with the certainty of infallibly implied truth in the dictates of the intelligence? Why devote an argument to prove that matter exists in space, or that events occur in time, or that effects imply a cause, or action an actor, or thinking a being that thinks?

"Intuition is the test of truth, and the arbiter of knowledge. But for this, demonstration would be without conviction, and logic valueless and impossible. What satisfaction can we get from any efforts of logic beyond the insight of our minds, of the truth as reasoned out or stated? Thus all knowledge and conviction, on the last analysis, arise out of, and are resolved into intuitions. And they must begin in self-evident principles of truth. We apprehend them in the insight of the intelligence, and advance from them, and but for them advance would be impossible. They are not proved, but seen in their own light, by the insight of reason.

"This is not faith, though faith and trust in the things thus seen and signified is consequent and reasonable. It is not testimony to us, but apprehension by us. It is not testimony from the senses, but it is perception by them. It is apprehension and knowledge through them. It is the insight of the intelligence in the only possible way of consciousness and sense; and we believe the things thus made known, for the best of reasons, because we see them to be true. We take testimony from others and use it for what it is worth, but here we see and have the original types and methods of knowledge, and give them credence as such. And we perceive that matter is effect, and recognize it as merely inert, unconscious, impersonal effect, without sense or reason, and appropriate and use it as such. It is created, and not absolute in its being; it is, because it was made to be, and could not have been otherwise; and if we deny the intuitions of mind in this, then is all knowledge impossible, and science a misnomer from the beginning.

"So in the sphere of mind, though here we rise above nature, and take in the peculiar elements of the supernatural. Mind is cause *per se*, and yet but a limited, finite, created, dependent cause in us. It has no creative power, and must itself have been created. It is itself an effect, finite and dependent in its being and power. It could not create one particle of the dust of the earth. It had a beginning, and a creation, and puts on all the types of dependence, responsibility and allegiance. It is consciously an effect, and humble in its dependence, as the offspring of one who created and upholds and sustains all things.

"3. *Something always was.* This follows infallibly from the fact that something is. How get the existent, without the ever-existent? How get the effect, without the cause? The scale of dependent causes does not help you. You must reach an original cause, which is in no sense an effect. Any and all effects show this. The philosophic Paul saw this, and leaped at once, in his convictions and his argument, from the creation to an *eternal* Power, and with the utmost legitimacy and infallibility. We care not how difficult may be the idea of the always being; it is inevitable. Either deny everything, or admit that. If effects are, there is eternal cause. If anything is, something always was. You get your whole doctrine from the least mote as completely as from the largest universe. Nothing could be, unless something always was. That which had a beginning is an effect, and had a cause above and before it. That which began, is by reason of that which did not begin. Dependence proves independence; the derived, the underived; the created, the uncreated and absolute. You must accept absolute, uncreated, eternal being, as the only standpoint for the existence of anything else. It is our inevitable postulate—if effects are the creation is. But these are, and there is a cosmos. As you cannot deny the one, neither can you the other. The logic is inexorable, the philosophy without mistake, the insight of reason obvious and perfect. You get the derived finite, by means of the underived infinite. The *always-being*, is the necessary complement of the doctrine of every being, action and thought.

You can have nothing, or think of nothing, that does not involve it. The full and adequate conception of the *always-being*, 'without beginning of days or end of years,' may not be expected of derived mind. We are an effect, and abide in the region and sphere of effects, and find it difficult to grasp that which is only cause, and itself uncaused. But that it is, admits of no doubt, 'being clearly seen by things that are made'—and we repeat the thought.

"4. *The always-being is eternal cause.* The always existing could be in no sense an effect, or find the reason and ground of its being in something else. Nothing else existed, to take on this relation to it. Its existence, like that of duration and space, is from eternity to eternity, 'the same yesterday, to-day and forever,' and is inherent cause. Whatever else exists is originated by this, and exists by its creative fiat. In the existence of this, you reach the necessary ultimatum of being, as cause of all conception concerning it. Nothing is possible or conceivable beyond. The ultimate idea is eternal existence, as eternal, original cause—the originator of all else; but, itself without origination and without beginning, and like space and duration, boundless, ceaseless. It simply is, and acts. We may not, in our sphere of derived existence, and under the laws of thought that must obtain in the region of cause and effect, be able to gain the full contents of such existence; but that it is, we infallibly know. We get it as a first truth of reason, from the laws of the intelligence, and the inevitable logic of the case. More we could not have; less there could not be, if even a mote or an atom exists.

"5. *The always-being, the eternal cause, is* INTELLIGENT *cause.* Matter exists only as effect: its '*vis inertiæ*' is proved by the insight of reason and the senses. Mind only is cause, and is seen to be cause, by the dictate of consciousness. It may be dependent for its being, as in the case of finite, derived mind, but has in it the elements of inherent cause, in its self-activity and prerogatives of free-will. It has free personality, and the self-felt, and self-acknowledged power of causation and choice. It is a '*causa causans.*' All intelligence is such, and it is all the proper cause of which we know. If other modes of being are possible, they are not known or knowable, and are without relevancy or significance in this discussion, and could no way affect our position.

"Intelligence, then, is the characteristic of the eternal cause. It is so '*a fortiori.*' This is infinite, absolute mind, having in itself the elements of all power and cause. Mind has everywhere homogeneous characteristics and manifestations. It must have intellect, sensibility and will. These are integral to it, and include all that belong to it, or that is conceivable as in it. We may go from derived mind to the underived, and obtain from conscious manifestations, the elements of both. From what is in, and belongs to derived, dependent mind, we recognize what belongs to independent, absolute mind. The one is a derivative from the other, and like it, and in correspondence with it. The forthgoings of the absolute will be in the direction of its own being, in giving birth to mind, and constituting it the offspring of its author. There will be mutual similarity and appreciation. They will correspond with each other, and we pass from the known to the unknown, as we step by the moon into the visible heavens. We legitimately take the chronological or the logical method, and pass from effect to cause, and from cause to effect, and we see in the eternal cause, not the reflection merely of our own intelligence, and mental constitution and energy, but the absolute and unfailing source and fullness of it. We come to the fountain head of all being, intelligence, and power. We arrive at the original, unlimited, independent cause; at the infinite mind, which was before all else, and by which all else exists. And we get this with the infallible certainty of demonstrative truth. We get the doctrine in consciousness, and by the light of our own intelligence, and we refer it legitimately, in its relations, to the original, absolute cause. There is firm footing. Intelligent cause finds its fullness and perfection in the original, eternal cause, and we behold in it the grand primal element and authorship of all else. There is 'the hiding' of power, and there the counterpart and depository of the intellectual characteristics, energies and manifestations of a created universe." (*The Being of God*, pp. 22 to 30.)

He appends a Thesis *On the Being of God :*

"In this age of rapid movements, crude opinions and surface work, there are yet those that *think*, that inquire after the *philosophy* of religious belief—that would gain the first truths of reason, and reconcile therewith the statements of theology and the doctrines of the Church.

"1st. Theology is *moral science* in the department of religion.

"2d. It is embraced in the three categories,—the *Infinite*, the *finite*, and the *relation* between them.

"I.—The Being of God.

"1st. Something is.—(Proof)—(1) The senses; (2) consciousness; (3) universal conviction and consent.

"2d. Something always was.—The derived implies the underived; the created, the uncreated; the finite and dependent, the absolute and independent.

"3d. Original of being, not matter.—Matter not inherently cause—has a reason for being, and being in one place rather than another—is dependent; a thing placed; is in itself without design or end.

"4th. Original of being, spiritual, personal intelligence—the 'I Am,' of the Bible. Intelligence is cause *per se ;* it *only* is cause; acts from design; has an end in what it does. This is true of derived intelligence—much more of the underived.

"5th. Knowledge has a *chronological* method and a *logical* method. We are, therefore God is. The being of God is pre-supposed and known in the being of anything else. It must be that God is, if anything is.

"6th. We may know that *that* is, which we can not comprehend—hence may know God, and that He is, though not able to comprehend the Infinite.

"7th. It is not to be expected that *derived* intelligence will comprehend the *underived ;* the law of knowledge is by analogy.

"8th. If the finite, created, is only by the Infinite, uncreated, then is the Being of God the complement of all knowledge and thought, and God is all His works." (*Ibid*, pp. 215, 216.)

Men of science may attempt to show what they like, we think they can be followed with proof that whatever they may claim to have shown is either not fact, or that it is in accordance with some "law" of Nature. (See *Christianity and Positivism*, pp. 24, 25, and see *ante*, p. 4.)

In our Comparison of Proofs we have seen, on both sides, perfect accord, as to one fact, viz., that throughout Nature there are well defined laws of Order and Adaptation; and, thus agreeing, we stand prepared to push the argument to "extremes," which we will now proceed to do.

Suppose it should be found that there existed upon the earth, animals which were an improvement upon the Monkey, in all stages of advancement, from the fully haired quadruped to the almost hairless biped ; and that, at last, some should be found, in the advancing series, which could hardly be distinguished from the monkey on the one hand and man on the other. Suppose, further, that the naturalist and the geologist had discovered, beyond all doubt, that man rose in regular succession from the lowest order of animal life—the simple sack or worm. Suppose, still further, that Physical Forces, acting on the elements of matter, produced the first germ of animal life. What would such undeniable FACTS prove ? Would they prove that there was not an intelligent First Cause, lying behind all these ? Surely this could not be claimed, for the argument based on Order and Adaptation would not be thereby shaken. It is not so claimed, even by the most radical advocates of development and evolution. (*Ante*, p. 123.)

Have we not so narrowed the argument that even such an extreme hypothesis may be assumed without impairing the strength of *this* link in the chain ? Let the researches or even the imagination of man extend whithersoever and howsoever, and we again and again challenge him to find or imagine a condition of things, in general or in detail, where the laws of Order and Adaptation do not exist.

Should he find useless parts or "rudimentary appendages," in an animal, which he cannot, or which, it may be, he can explain, the LAW of Order if not of Adaptation will remain ; and *either* will serve to establish DESIGN. Both are not essential. There cannot be law without design.

Whether the Bible is to be sustained or not ; whether or not it contains an exposition of the processes by which we are to understand how all things were made to exist and are governed, is foreign to our present inquiry. We here repeat and we wish it to be steadily kept in mind, that all we are *now* seeking to establish is the naked fact of the *existence* of an intelligent First Cause, called God. Let this one fact be enforced upon the belief, and we will be prepared to take the next step in our argument; not before.

We, once more, recall the illustration of the chain; the links of which must be so forged that each must stand by itself, complete in itself, strong and unimpaired; and that while forging each link, those which are to follow must be left untouched. (*Ante*, p. 25.)

Again, when the first link of the chain has been actually forged, we should assume as a fact that it exists and proceed to forge the next; and while forging another and another of the subsequent links, in regular succession, we should assume that those already forged are not to be made over again. Nevertheless, it will be proper, when all the links are put together, that we should appeal to any of the later, to make sure that we still have those which were previously constructed; and in the concluding Division of this work and in any other Division where we can properly do so, we shall take care that this is done; for the existence of God will be made more and more manifest as we proceed.

LOGICAL CONCLUSIONS CONTINUED.

In view of the disposition of some men to dispute any proposition, however palpable it may be to the ordinary thinker, we cannot well close this Division without again calling attention to the observations of Froude, (*ante* p. 5,) as to this prevalent proneness to dispute the plainest Fundamental Principles ; nor without again referring to the quotations we have made from Horne (*ante*, pp. 65, 66) and from McCosh. (*Ante*, pp. 83, 84.) It does not require Scripture to teach us that, " so long as grass grows and water runs," there will be " many men of many minds," some of whom must be given up to a " reprobate mind," and allowed to " believe a lie." We have seen that there are " philosophers" who deny the " law of cause and effect" ; also, that " two and two make four" ; also that " parallel lines will not meet" ; also, that " to be and not to be" is not an absurdity. (See *ante*, pp. 83, 84.) So, we must be prepared to see disputants rising up to deny not only our " facts" and " principles," but our " conclusions." Thus, it has always been ; and, thus, it will ever be, while men dwell on the Earth.

In *The British Quarterly Review* for July 1871, (Reprint, in New York, by Leonard Scott,) we find these smooth sentences thrown off from the pen of a ready writer, in the form of dogmas, unsupported by fact or argument.

> " III. The teleological argument, which, from the marks of design in the universe, infers the existence of a designing mind, is the stock argument of British natural theology, in illustration of which whole libraries have been written. As Kant remarks, " it is the oldest, the clearest, and the most adapted to the ordinary human intellect." But the objections to

this mode of proof are almost innumerable. Even admitting its validity to a certain extent, it falls short of the conclusion which it attempts to reach. For the effects which it examines, and from which it infers a cause, are finite, while the cause it assumes is infinite. But the infinity of the cause can be no valid inference from an indefinite number of finite effects. At the utmost we only reach an artificer, not a creator,—one who arranged the phenomena of the world, not the originator of its substance,—the architect of the cosmos, not the maker of the universe. There is no analogy between a human artisan arranging a finite mechanism, and a divine creator originating a world. Nor is there any parallel between the method of nature, and the process of a mechanic, working according to a plan. The only real parallel would be our perception by sense of a world slowly evolving from chaos, according to a plan previously foreseen. From the product we are at liberty to infer a producer only after having seen a similar product formerly produced. But the product which supplies the basis of this argument is unique and unparallelled, "a singular effect," as it has been called by Hume, whose reasoning on this point has never been successfully assailed. The argument from design applies to the arrangements, and not to the origin of the universe, and is therefore worthless as proof of an Infinite Creator. The only valid inference from the phenomena of design would be that of a phenomenal first cause. The inference of a personal Divine Agent from the mechanism of the universe is unauthorized. There is no link between the traces of mind that are discerned in nature and an agent who produced them. The divine personality thus remains unattested. Nor can even partial validity be conceded to the argument. The phenomena of design not only fail to lead us to a personal First Cause, but they confine us within the network of observed designs, and do not suggest the existence of a being detached from these designs and therefore able to modify them with an infinite reserve of power. These designs point only to mechanical agency, working in fixed forms, according to prescribed laws. The phenomena of the universe do not in the least suggest an agent exterior to themselves. We are not warranted in ascribing the arrangements of means to ends in Nature to anything supernatural. These arrangements, as far as we know, may be due to a principle of life immanent in Nature, the eternal evolution and development of the world itself. Thus the teleological argument must be pronounced fallacious. It is illusory as well as incomplete. Even were we to admit its necessity it would afford no basis for worship, or the reality of the Being which it infers. The conception of Deity as a workman, subordinating moral conduct to skill in contrivance, could never lead to reverence or adoration of the architect."

It is idle to attempt to argue with such disputants. We can only silence them by such maxims as these.

"The principle part of every thing is the beginning."

"From the great number of signs true identity may be ascertained."

"From similars to similars we are to proceed by the same rule."

"The power which is derived cannot be greater than that from which it is derived."

"Strong presumption is full proof."

"Given principles follow their concomitants."

"He who seeks a reason for everything subverts reason."

"When the foundation fails, all fails."
"One absurdity being allowed, an infinity follow."
"There is no disputing against a man denying principles."
"The knowledge of smatterers is mixed ignorance."

In 1869 we were consulted and gave advice in respect to a contract made between a French author and an American translator for the translation of a work on Astronomy ; the question being as to the right of the author to demand and enforce a return of the manuscript by reason of the translator having only partly completed the translation within the time limited by the contract. So far as the translation was made, we read it ; and we found that the work contained an exposition of an elaborate theory, accompanied by drawings and minute mathematical calculations, intended to prove, on purely scientific principles, that the Earth and the other planets do not revolve in orbits around the Sun ; but that *each*, including the sun, has an orbit whose centre is an immaterial point of its own ; thus attempting to overthrow the Newtonian theory, and defying the laws propounded by Kepler. Publishers, to whom the manuscript was offered declined to publish it ; because it appeared to be open to criticism as a scientific monstrosity. We remember that the author accepted the Bible, and sought to explain the alleged obedience to the command of Joshua " Sun, stand thou still upon Gibeon, and thou Moon, in the valley of Ajalon. And the sun stood still, and the moon stayed . . . . So the sun stood still in the midst of heaven, and hasted not to go down about a whole day," (Josh. 10 : 12, 13,) by attempting to show, on scientific principles, and by the *true* laws of astronomy that the sun and moon, before then, "rose" in opposite sides of the heavens from what they now do ; and that, on that day, they changed the meridian, in such a way that about *two* " days" were requisite to effect the necessary astronomical phenomena which were said to have been effected in the change.

It is worthy of mention that this theory has found some apologists and even adherents of considerable literary pretensions ; and we ourselves, while unprepared to accept his conclusions, entertain for this Astronomer and his work a respect which we cannot accord to the Reviewer from whom we last quoted. The Astronomer gives us what purport to be definite data, such as facts and figures, which may be readily tested and exploded if wrong. The Reviewer gives us dogmatic statements, with rounded periods, which deny much and establish nothing, and which, if answered fully, would require an amount of time and trouble they do not deserve. We prefer to go back to Hume, who originated that radical line of disputation and who is probably its most able exponent. Dr. McCosh, properly, we think, gives to the philosophy which includes this class of disputants the name of *Humism.* (See *ante* p. 44.) Thomas Reid overcame that philosophy with the "Philosophy of Common Sense" which still seems to be the touchstone for ascertaining truth; and to which we appeal as the only competent arbiter in such controversies. (*Ante* p. 36.)

Aided by that philosophy, we may take all things in Nature as they appear to be, and call them realities. We may, thereby, safely assume, as premises, the Fundamental Principles with which we set out in our opening Chapter; and we may confidently assert that those principles, rightly considered, lead us, unerringly, to the conclusion that God is. The power of reiteration has grown into a proverb in respect to perpetuating a lie; and as we may, sometimes, learn wisdom from an adversary, we will make use of this rhetorical weapon, ourselves, to doubly verify that other proverb :—

"The Truth is mighty, and will prevail."

LOGICAL CONCLUSIONS CONTINUED.

In our statement of Fundamental Principles, in the form of propositions deduced from facts and fortified by reasons, as given, in five formulas, on pages 68-72, we have chosen an order which we conceived to be in the ascending scale of merit—the last of the five being, in our judgment, the best. We claim that the entire series must stand as indisputable, except with the qualification that *any* proposition, however apparently incontrovertable, will be disputed by *some* thinkers, even if it involves a mental contradiction. Reason fails to fulfil its office when it recognizes any such denial as a "deadlock." There is no such perplexity in logic as a deadlock. One or the other of the disputants must finally succumb.

We here repeat the fifth formula :—

"1. Something is.
2. You are.
3. You had a Beginning.
4. A Beginning necessarily implies Motion.
5. Motion necessarily implies a Motor.
6. Motor and Motion necessarily imply Something moving Something.
7. Something in motion necessarily implies Substance acted upon by Substance.
8. Substance acted upon by Substance necessarily implies an Effect.
9. Every Effect must have a Cause.
10. All Causes are Secondary ; that is, they are effects of a preceding cause, or causes, except a First Cause, if there be a First Cause, which remains to be shown."

The existence of a First Cause, hypothetically stated there, is positively affirmed here. To reach this result, we have employed what is well known as the "argument from design," to which Mr. Mill has advised us to "stick," (*ante* p. 4,) and which Kant says is "the most adapted to the ordinary human intellect." (*Ante* p. 170.) We not only consider it the best, but believe it to be the *only* process of reasoning which may be properly employed to prove any act of intelligent causation. The law looks to "motive" when it judges concerning the consequences of human action, for good or evil. In proportioning the punishment to the fault, it is governed by the "intent." Wherever we find motion we recognize an effect; and we know that it must be caused; and if we find matter, or the laws governing matter inadequate to produce that effect, we have no alternative but to ascribe its cause to some act of a Designing Mind.

The argument from Design may be elaborated into many volumes; and our Logical Conclusions may be stated in a great variety of ways.

Let us, for example, take up the Atomic Theory; state some of the well known facts based upon it; add others not so well understood, but which appear to be equally undeniable; and accompany these with others which rank only as probabilities, and with others still, not yet published, but which likewise appear to be as free from doubt as any of the accepted data, old or new, heretofore evolved from it. And, then, let us see if this theory alone is not sufficient to logically lead us to the conclusion that God is. There is no theory so universally approved. It underlies all science; and yet it is no exception to the rule that no supposed truth can be so firmly established in the minds of men as to exempt it from denial. A writer (J. B. Stallo) in the *Popular Science Monthly* for Oct., 1873, argues that it is at best only an hypothesis; and after pointing out a number of alleged defects he thus radically states his conclusions:—

> "From the foregoing considerations, I take it to be clear that the atomic hypothesis mistakes many of the facts which it seeks to explain; that it accounts imperfectly or not at all for a number of other facts which are correctly apprehended; and that there are cases in which it appears to be in irreconcilable conflict with the data of experience. As a physical theory, it is barren and useless, inasmuch as it lacks the first requisite of a true theory—that of being a generalization, a reduction of several facts to one; it is essentially one of the most spurious figments of the brain, based upon an ever-increasing *multiplicatio entium praeter necessitatem*, which are characteristic of the pre-scientific epochs of human intelligence, and against which the whole spirit of modern science is an emphatic protest. Moreover, in its logical and psychological aspect, as we shall hereafter see more clearly, it is the clumsiest attempt ever made to transcend the sphere of relations in which all objective reality, as well as all thought, has its being, and to grasp the absolute '*ens per sese, finitum, reale, totum.*'" (*Popular Science Monthly*, Oct., 1873, p. 716.)

A noticeable cotemporaneous reaffirmance of the Atomic Theory will be found in an address delivered before the British Association for the Advancement of Science, by its President, Alexander W. Williamson, PH. D., F. R. S., at Bradford, England, in Sept., 1873. We give his opening and concluding paragraphs:—

> "Every good analysis of a pure compound leads to results which approximate to those required by the Atomic Theory; and chemists trust so thoroughly to the truth of that guide that they correct the results of such analysis by the aid of it. The chemical idea of atoms serves for two purposes: (1.) It gives a clear and consistent explanation of an immense number of facts discovered by experiment, and enables us to compare them with one another and to classify them. (2.) It leads to the anticipation of new facts by suggesting new compounds which may be made; at the same time it teaches us that no compounds can exist with their constituents in any other than atomic proportions, and that experiments which imply the existence of any such compound are faulty.

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> "I cannot quit this part of our subject without alluding to the fact that some few chemists of such eminence as to be entitled to the most respectful attention, have of late years expressed an opinion that the idea of atoms is not necessary for the explanation of the changes in the chemical constitution of matter, and have sought, as far as possible, to exclude from their language any allusion to atoms. It would be out of place on this occasion to enter into any discussion of the questions thus raised: but I think it right to point out: (1.) That these objectors have not shown us any inconsistency in the atomic theory, nor in the conclusions to which it leads. (2.) That neither these nor any other philosophers have been able to explain the facts of chemistry on the assumption that there are no atoms, but that matter is infinitely divisible. (3.) That when

they interpret their analyses, these chemists allow themselves neither more nor less latitude than the Atomic Theory allows ; in fact they are unconsciously guided by it." (*N. Y. Daily Tribune*, Sept. 29, 1873.)

Until overthrown by something better, we are justified in assuming that the Atomic Theory, more correctly than any other, makes intelligible the laws of Order and Adaptation, the universality of which is probably the only supposed generalized truth we can designate as not disputed ; and that this theory is founded upon the "best attainable evidence" which science has thus far made accessible to us. This evidence is precisely like that which the lawyer would be bound to produce if attempting to prove the fact in a trial at law.

The supposed facts on which the Atomic Theory is based, when methodically stated as found in the most approved works, and when further theorized, upon the most rational probabilities, to its logical conclusions, will give us a collection of isolated items, and lead us to the ultimate point at which we are aiming.

These items we will now proceed to give. Some of them may be open to criticism ; but whether these will bear that test or not, enough will be left to demonstrate the soundness of the conclusion which refers all the phenomena of Nature, upon whatever theory the movements of matter may be sought to be explained, to the forces which effect the combination and cohesion, [adhesion ?] the attraction and repulsion [?] of atoms, and which ascertains that these forces were implanted in atoms by a Designing Mind, who gave them certain definite and orderly modes of action and counteraction, from minimum motion just this side of absolute rest, under some conditions, to maximum motion, even unto the explosion of a thunderbolt, under other conditions ; who so constituted these modes of action, that they are always the same under the same conditions ; and who need not change them in order that they may operate more beneficently.

The fundamental ideas which underlie the Atomic Theory are that matter is not infinitely divisible ; that it is composed of elementary atoms, which are *ultimate* atoms ; that these elements combine in definite proportions ; that they cohere in an orderly way ; and that they separate and cohere, again and again, by invariable laws of "attraction and repulsion," [action and counteraction.] So far, the theory is accepted by every man of science, probably without exception. The disputations refer to the details of the processes, and not to the general theory itself. Our amplification of the theory, whether right or wrong, will not affect the argument, so long as we do not depart from *these* fundamental truths. With this introductory explanation, we will state the accepted facts, commingled with those which are debateable, but which do not conflict therewith. The Reader must discriminate for himself. The production of heat, light and electricity may proceed from causes different from those which we assign to them ; yet, so long as these phenomena are admitted to be governed by law, we are not disposed to cling to any peculiar views on the subject. Whether "caloric" be a separate element of matter, or only a name given to motion of atoms or molecules, our premises and conclusions, in the argument, will remain unimpaired. (See *Views of Nature*, by Ezra C. Seaman. New York : Scribner, Armstrong & Co. 1873.)

Matter is.

Matter is composed of ponderable and imponderable substances.

Ponderable matter is composed of elementary atoms.

Imponderable matter is the medium in which ponderable matter is suspended and moves.

There are different kinds of atoms.

The different kinds of atoms thus far identified are about 63 in number.

There are probably others yet to be identified.

One kind of atom probably differs in size from any other kind of atom.

One kind of atom probably differs in color (or shade of color) from any other kind of atom.

One kind of atom probably differs in form from any other kind of atom.

Each kind of atom probably consists of the same quantity of matter as any other kind of atom.

Every kind of atom is probably more or less hollow except one.

This one is probably oxygen.

The largest kind of hollow atom is probably hydrogen.

The smallest kind of hollow atom is probably fluorine.

The smallest atom is probably oxygen.

Oxygen is probably solid.

Every other kind of atom probably has a solid shell of varying thickness, size, shape, color (or shade of color) and form.

The solid thus far mentioned is probably ultimate solid.

Yet, this solid probably has cells.

All atoms have motion.

This motion is perpetual.

No atom is ever at rest.

It is probable that no atom contracts or expands.

It is probable that no particular kind of atom ever varies in thickness, size, shape, color (or shade of color) or form.

It is probable that every kind of atom, once existing, continues, absolutely, always the same.

It is probable that every kind of atom, once existing, is absolutely indestructable, by any process known to natural or human agency or power.

All science admits that it cannot destroy an atom.

When an atom moves, the extent of its motion is limited.

This limit is proportioned to the force exerted.

Also to the continuance of that force.

The continuance of that force is influenced by a counteracting force exerted by some other kind of atom.

The ultimate material force which imparts motion to atoms is probably to be found in oxygen.

All atoms except one (probably oxygen) are moved by a force inherent in some other kind of atom.

When any kind of atom starts in motion another kind of atom exerts a force which, sooner or later, (so to speak,) brings it back.

When started again, it is brought back, and again started and brought back, continuously.

When brought back, it is started again by the same force or by some other force inherent in another kind of atom.

Every kind of atom has an inherent force of more or less power.

The forces exerted by different kinds of atoms vary in intensity.

The rapidity and extent of motion to atoms vary.

Minimum extent and minimum rapidity of motion to atoms give maximum cold.

Cold is produced by atoms at, more or less, (so to speak,) minimum of rest.

Maximum extent and maximum rapidity of motion to atoms give, more or less, (so to speak,) maximum heat.

Heat is produced by atoms at, more or less, (so to speak,) maximum extent and rapidity of motion.

Rapidity and extent of motion intensified give both heat and light. [*Quere ?*—Phosphorescence. See *post*, Div. VI., Part II., Sub. 6, 7.]

Rapidity and extent of motion, still further intensified, probably give not only heat and light, but electricity. [*Quere ?* —See Electricity, *post*, Div. VI., Part II., Sub. 6, 7.]

In the midst of all these extremes of the rapidity and extent of motion to atoms, we have all the other phenomena known or discoverable in chemistry and physics.

When motion to aggregated atoms is not discernable we call their aggregation a solid.

When motion to aggregated atoms is discernable as a moving visible mass we call their aggregation a liquid.

When motion to aggregated atoms is discernable as a moving invisible mass we call their aggregation aëriform.

A solid is, seemingly, at rest; a liquid rolls; a gas floats.

To seemingly rest, and to actually roll and float, it is essential that all atoms should exist in a material medium.

Elementary atoms move in a universal occupant of all space, called ether.

Ether is imponderable.

Ether is one homogeneous and continuous material substance.

Yet, ether has cells.

These cells are too minute for any atom to enter.

Ether resembles jelly rather than a solid, a liquid or a gas.

The cells of ether will only admit the entrance of a substance more attenuated than ether or atom.

Atoms and ether constitute all there is of matter. [Mind? see post p 2

In the combination and aggregation of atoms, there are interstices.

These interstices are occupied by ether.

This occupant of the interstices of atoms, viz., ether, has, as we have already said, cells.

These cells are occupied with something.

Mind is.

Mind is a substance.

This substance is more attenuated, and, consequently, more penetrating than atoms or ether.

This intensely attenuated substance is mind.

Yet, mind has cells.

These cells are occupied with something.

Spirit is.

Spirit is a substance.

This substance is more attenuated, and consequently, more penetrating, than atoms, ether or mind.

This superlatively attenuated substance is spirit.

Spirit has no cells.

Mind and spirit combine.

This combination is effected by spirit penetrating the cells of mind.

Mind thus penetrated becomes a spiritual substance.

We cannot conceive a limit to spiritual substance.

We can conceive a limit to material substance.

Material substance is, therefore, finite, in man's comprehension.

Spiritual substance is, therefore, infinite, to man's comprehension.

Matter, therefore, defines boundaries to space.

Mind, therefore, is both within space, and beyond space.

Space can only be conceived by the presence of matter.

Mind cannot be conceived except as outside of matter, and in matter, penetrating, "on certain conditions," the cells of ether.

Spirit cannot be conceived except as outside of matter, and in matter, penetrating, "on certain conditions," the cells of mind.

On this theory, mind and spirit, under these conditions, may be investigated in physical science.

As the cells of all atoms are penetrated with ether, so are the cells of all ether penetrated with mind.

[Is this Mr. Huxley's "Physical Basis of Life?"]

But, the cells of all mind are not penetrated with spirit.

Mind penetrates the cells of ether by natural affinity.

Spirit penetrates the cells of mind by supernatural power.

Mind associated with matter " under certain conditions," gives rise to vegetable growth.

In this process mind is exerted as a vital force.

Mind associated with matter " under certain conditions," gives rise to animal growth.

In this process mind is not only exerted as a vital force, but it is also moved by a spiritual force.

These forces, whether exerted separately or together, are in direct opposition to natural chemical affinity.

Atoms combine and cohere. [We purposely omit " adhere"]

When atoms combine, one or more of the different kinds of atoms penetrate another and different kind of atom ; that is to say, the particular kind of atom penetrated, when individualized, contains a different kind of penetrating atom, or different kinds of penetrating atoms from the atom penetrated ; so that one kind of atom never penetrates the same kind of atom.

An atom when thus penetrated becomes a molecule.

The combination of atoms to form a molecule is effected because particular kinds of atoms have an affinity for other kinds of atoms ; that is to say, they will enter their nearest atomic neighbor, (so to speak,) that will admit them ; for example, if an atom of hydrogen is a hollow globe with an aperture just sufficient to admit the entrance of an atom of oxygen, and with a capacity to receive just eight atoms of oxygen, the latter will, when " near enough," engorge that atom of hydrogen, one after another, until filled with eight.

This combination is chemical.

When molecules cohere, a chemical body is formed ; for example, water.

When simple unpenetrated atoms cohere, an elementary body is formed ; for example, gold.

Molecules only cohere with molecules.

Elementary atoms only cohere with elementary atoms.

Different kinds of molecules sometimes cohere.

When different kinds of molecules cohere a compound chemical body is formed ; for example, flesh.

Cohesion is outward contact of molecules or of elementary atoms.

There is no cohesion until molecules or elementary atoms are, more or less, at rest ; that is to say, when there is no further sufficient motion produced by chemical affinity between the different kinds of atoms aggregated, to again separate them.

Aggregation of atoms or of molecules, or of both together, is not cohesion, unless they come to a rest.

Aggregation of the same kind of atoms, without the presence of a different kind of atom or atoms, capable of penetrating the former kind, is sure to result in cohesion to form an elementary or simple body ; for example, gold.

Aggregation of the same kind of molecules, without the presence of a different kind of molecule or molecules, capable of carrying the process of affinity a step further by an exchange of atoms between the molecules thus aggregated, is sure to produce a simple chemical body.

If this exchange is effected, it is by a process of elective affinities ; that is to say :—A molecule A may unite with a molecule B, forming a third mass AB ; but if a molecule C had been present, the constituents of A might have had so much more affinity for those of C than it had for B, as to unite with those of B, forming AC, while the molecule B would remain unaffected.

By this process of elective affinities a compound chemical body is produced.

Affinity is chemical ; that is to say, it is effected by penetration.

Cohesion is mechanical; that is to say, it is effected by outward contact.

Chemical combination is always in definite proportions.

Mechanical cohesion is always by attraction.

In such processes, there are laws of order.

These laws are effected through forces.

These forces invariably act the same way under the same conditions.

By these laws material bodies are formed.

Penetration belongs to the science of chemistry.

Outward contact belongs to the science of physics.

Both together include an investigation of all phenomena of nature.

These phenomena belong to material bodies only.

Material bodies are animate or inanimate.

The animate are living plants and animals.

The inanimate are without life.

Without life means absence of vital force.

With life means presence of vital force.

The animate have parts.

The inanimate have not.

Each of these parts is adapted to certain uses.

These uses enable each species to sustain itself.

Also, to perpetuate its kind.

Order, alone, perpetuates and transforms the inanimate.

Order and adaptation, combined, perpetuate the animate.

Order and adaptation harmonize nature.

Harmony in nature is produced by chance or design.

The movement of the tongue which announces such a doctrine might utter the contrary if this harmony does not proceed from design.

Harmony in nature is not chanced.

It is an effect.

Every effect is caused.

Every cause is an effect of a preceding cause, except a first cause, if there be a first cause.

A totality of all things, whether caused or uncaused, constitute the universe.

The universe contains all there is of the inanimate.

Also, all there is of the animate.

An inanimate body has no mind except so far as mind, an inert substance, fills the cells of the ether within it, but without power to enable that body to put forth an action.

An animate body, not vegetable, has mind in like manner with power to enable that body to put forth an action.

This power is spirit.

In the universe, there are spirit, mind and matter.

Spirit, mind and matter constitute the universe.

The inanimate invested with mind and with power to use it, becomes animate.

This power proceeds from spirit.

The animate invested with power to use mind has both life and intelligence.

This power proceeds from spirit.

This constitutes a living animal.

The animate divested of power to use mind becomes inanimate.

The divesting of this power proceeds from spirit.

This constitutes a dead animal.

A dead animal is resolved into its original elements of inanimate matter.

The inanimate not invested with power to use mind, but with life, is animate but non-intelligent.

These are vegetable.

The inanimate, not invested with power to use mind, nor with life, is both non-intelligent and inert.

All elements of matter are inert, when not moved.

When matter is moved, the movement is caused.

This movement is caused by spirit, mind or matter.

When matter moves or stops, arbitrarily, chemical, mechanical or vital force is exerted.

When matter moves or stops, at will, spiritualized mind is exerted.

When mind is thus exerted, spirit is the impelling power.

Force always works according to a law of order.

Mind invested with spirit always works according to choice, subordinated to a law of order.

Spirit always works, independently, not subordinated, but as ultimately self-moving.

Gravitation is a law of order.

All motion of atoms, whether singly or in a mass, is subordinated to the law of gravitation.

Gravity acts on all atoms and molecules, at all distances.

Cohesion acts only on atoms or molecules, at insensible distances.

Chemical affinity acts only between unlike atoms, at insensible distances.

Man puts forth a motion which, in a measure, overcomes gravitation.

He does this by his will.

The will proceeds from an effort of his mind.

Man's mind, therefore, is, to some extent, superior to matter.

Man's mind is fettered by matter.

Man's mind in motion is an effect.

Man's mind is, therefore, caused.

Man's mind is, therefore, finite.

The finite implies an effect.

The finite presupposes a cause.

This cause is ultimately referrable to infinite cause.

Infinite cause is uncaused.

Infinite cause is first cause.

Infinite cause is spirit.

Harmony in nature presupposes design.

Design presupposes contrivance.

Contrivance presupposes intelligence.

Intelligence acts.

To act is to produce an effect.

To produce an effect there must be an active cause.

This cause is caused; and, so on, until we reach a first cause.

"To this conclusion we must come at last."

When we can fathom cause no farther, we must stop.

When we can fathom cause no farther, we find *first cause.*

This argument is like "a harp with a thousand strings." It can be played upon until every note in the gamut is sounded. Thus far we have kept the Bible shut. Let this harp once stand upon an open Bible, where we propose to place it in Division VI., and we promise that it will send forth more certain sounds, with mellower tones, more varied harmonies and larger compass. There, all these things and many more like them will be verified by Scripture. The Atomic Theory and other scientific problems will then, we further promise, find a readier solution; for, from that standpoint, the First Cause, will, we believe, enable us to look through a lens of whose power the Materialist knows nothing. If he there finds, as we pray he may, that he has been looking through a telescope with the larger end sometimes against his organ of vision, we will receive our reward for the pains we have taken, in seeing him always look aright through the instrument of scrutiny. Pardon this digression. The temptation to begin with a First Cause and look forward, instead of starting with last effect and tracing backward, was so strongly presented, just now, that we were betrayed into a "traveling out of the record." Let us return to the more legitimate scope of our argument, in the narrower bounds of Division I.

There is a shorter way than we have given. We might have said :—

What is called Nature is matter and its manifestations or movements.

All movements in Nature are subordinated to laws of Order and Adaptation.

Order and Adaptation in Nature are universal.

Universal Order and Adaptation in Nature imply design and contrivance.

Design and contrivance throughout the universe of Nature imply intelligence.

Intelligence, designing and contriving throughout Nature, implies a power capable of establishing Order and Adaptation in the universe of matter.

Such power is *Super*-Natural.

Supernatural power implies a power over and above Nature ; a power superior to any force in Nature ; a power independent of Nature ; a power supreme.

An intelligent, supernatural, independent and supreme power, designing and contriving throughout Nature, implies a First Cause in Nature.

A First Cause in Nature implies a creation of all things in Nature.

A creation of all things in Nature implies a beginning of Nature.

A beginning of Nature implies that Nature was not from all eternity.

An intelligent power which caused Nature to begin implies a power which preceded Nature.

A power preceding Nature implies a Creation of Nature from nothing.

An intelligent power preceding and creating Nature implies a Being, in whose constitution matter is not present; a personal spirit, in antithesis with a material body; mind, in antithesis with matter; defined by Webster:—"An immaterial, intelligent *substance;*" and such a Being is called God, who is defined by the same Lexicographer:—"The Supreme Being; Jehovah; the Eternal and Infinite Spirit; the Creator; and the Sovereign of the Universe."

If we had chosen, we might have reduced our statement of facts and conclusions to these *ten:*—

1. Matter consists of various elementary atoms which most frequently combine, chemically, and cohere, mechanically, to form compound bodies; and which, sometimes, only cohere, mechanically, to form simple bodies.

2. All atoms when aggregated in a mass sufficient to be appreciated by our senses, aided or unaided by mechanical means, are found to be held together, when compound, by laws which have been ascertained to govern both chemical combination and cohesive attraction; and when not compound, are held together by the law of cohesive attraction only.

3. Chemical combination is never present in any mass of atoms unless the atoms are diverse.

4. Cohesive attraction is always present in any mass of atoms whether diverse or the same.

5. Chemical combination is effected by a law of affinity; which makes one or more elementary atoms penetrate one other and only one other elementary atom, which will contain just so many and no more of the penetrating atoms.

6. An atom thus penetrated is a molecule.

7. Cohesive attraction is effectd by a law of mechanical force; which is exerted by compelling outward contact of

molecules, which are always compound, or of atoms, which are always simple.

8. Both chemical combination and cohesive attraction are subordinated to a law of order.

9. This law is discoverable in all aggregations of atoms into material bodies.

10. This law implies a Supernatural Lawmaker—a First Cause.

There is still a shorter way. We might have reduced them to *five* :—

1. Something moves.
2. Every movement is an effect.
3. Every effect is caused.
4. Every cause is an effect of a preceding cause, except a First Cause.
5. Therefore, there is a First Cause.

And still a shorter; for we might have reduced them to *two* :—

1. All constituents of the material universe move harmoniously, in detail and as a whole.

2. This universal harmonious motion implies an Omnipotent Motor—a First Cause.

And yet a shorter. We might, indeed, have stated the whole argument in *one* proposition, viz. :—

1. Last effect proves First Cause.

Why elaborate the single proposition last stated? It is patent to "the ordinary human intellect." When the logician once starts with a premise which cannot be rationally disputed, his reason follows it to a Logical Conclusion which, it may be, he finds on the confines of reason, and there he stops. When he can find no further cause for cause, he is content to say:—The Uncaused lies Beyond:—First Cause was Before.

It is plain to be seen that the whole argument is hinged on "The Law of Cause and Effect." If it be conceded that *something is*, and that *effects are;* then, the whole discussion is resolved into a cause caused, until we finally reach a First Cause, as the limit of our powers of reason. From first to last, the issue has been and is:—Did Matter have a Beginning? We submit the case on this issue alone. When a controversy is narrowed to a single issue, the argument is reduced to a simplicity which demands a categorical answer, one way or the other. The answer must be Yes. Matter *did* have a beginning; and a beginning necessarily implies motion. We affirm that every movement is an effect; that every effect must have a cause; and that every cause is an effect of a preceding cause, until the mind of man is compelled to say that he finally finds a First Cause; beyond which he cannot fathom. This First Cause can be none other than a Supreme Being, with Infinite Intelligence. He is the Sovereign God. He must be absolutely sovereign, or not exist at all; and he would not be absolutely sovereign if matter had been with him from all eternity. (See *ante*, p. 96.) To be a First Cause he must, *necessarily*, have preceded matter, which he alone could cause to begin.

Thus, we claim that we have proven, by both competent and satisfactory evidence, and by the methods approved by "the law," and unaided by the revelations of the Bible, that

GOD EXISTS.

☞ Every step we now take in the additional Divisions of this Work will be accompanied by fresh evidences of the Existence of God. All Science and all History, rightly understood, confirm this great truth. We seek first to prove it with the Bible shut; but when we come to open that Book, and attentively consider what it professes to disclose concerning the Divine Government, we are enabled to bring forward a mass of testimony which constitutes far better evidence of God's Existence than any thing we can offer from the Book of Nature alone. Gifts sent to us by a friend we have never seen would be better appreciated, and we would be more satisfactorily assured that we had such a friend, if he should accompany them with letters which made us acquainted with his abode, his family, his position, his modes of life, his methods of action, his aims in the future, his surroundings, and particularly his further intentions in respect to ourselves. By referring to the Table of Contents, and the following Notes, it will be seen how we propose to develop the entire subject. But as we are now printing but a small portion of what we have written and expect to write, we will limit ourselves to the addition of some extracts from those pages only which immediately relate to the same general subject treated in the First Division.

NOTES.

Division I. In this Division we undertake to prove the Existence of God without a Bible, by the same rules of evidence the lawyer would be obliged to follow if he sought to establish the fact in a Court of Justice. This is the field in which Metaphysics has heretofore enjoyed almost a monopoly. Nearly all there is in that branch of learning can be assigned a place in this Division. It deals with the philosophy of causes; and until it reaches a conclusion which is accepted as truth, it is speculative. The moment the truth is definitely ascertained it is at once taken out of Metaphysics and incorporated among the principles of Physics. Let us hope that the day is near at hand when the existence of Mind, Matter and Spirit will be universally accepted as fact, and the distinctions between them understood. Then, Metaphysics having fulfilled her office, will step aside, and take away the only ladder on which empirical philosophers can hope to rise to literary fame. Then we shall no longer be disturbed by their mystifications, however "neatly put" some of them may be. God's existence once established, as a first link in the chain of argument, we will assume as a fact that that link actually exists, and proceed to forge the next. While forging another and another of the subsequent links, in regular succession, we will assume that those already forged are not to be made over again. Nevertheless, it will be proper, when all the links are put together, that we should appeal to any of the later, to make sure that we still have those which were previously constructed. In the concluding Division, and in any other Division where we can properly do so, we shall take care that this is done; for the existence of God will be made more and more manifest as we proceed.

Division II. In this Division we undertake to prove that we may, without a Bible, certainly know that God is a Spirit, Infinite, Eternal and Unchangeable, in his Wisdom, Power, Holiness, Justice, Goodness and Truth; and that we might almost construct a rational religion from what he reveals to us in Nature alone. If we had had no Bible, and even if we had had no "tradition," we could find enough in the phenomena of Nature, alone, coupled with man's innate consciousness of a distinction between right and wrong, not only to ascribe these attributes to God, but sufficient, in the exercise of our best faculties, to frame an "acceptable worship" of such a Being. This worship, however, would be attended with embarrassment to the majority of mankind, although not positively unattainable by all; and, in the beneficent plans of a Being possessed of such attributes, we may reasonably infer that he would not leave any man without the simplest and most adequate means of ascertaining how to serve and worship him aright.

Division III. In this Division we undertake to prove that all mankind could not know God sufficiently, nor understand properly what they should do in order to please him, unless he revealed this to them precisely in the way he has done it, viz., through miraculous appearances to man, and by writings such as we now have in the Bible. We say "precisely," because a Being with the attributes assigned would, naturally, (so to speak,) have some means of commerce or communication with his rational creatures; would not leave the history of this commerce or communication to the uncertainties of tradition; would take care that this history should be committed to writings; and would make sure that these writings were of such a character as to leave us in no doubt that they were certainly inspired by Him.

Division IV. In this Division we undertake to prove that the Bible alone contains a written revelation from God. We treat it as we would when dealing with "ancient documents;" and then contrast it with other writings, ancient and modern, which profess to be of Divine origin. This Division covers a wide range of historical research ; and our aim will be to condense the whole into less than 100 pages. It has two parts. Subdivision 10 of the First Part is entitled, "The Bible Consistent with Science." This includes an investigation of what Geology and Darwinism assert against the Mosaic account of Creation. We bring in those subjects, so seemingly vast, under a subordinate head, to be discussed as a minor topic. The internal evidences of the genuineness and authenticity of the Scriptures are so patent upon their face, to the attentive reader, that we cannot but consider the "science" presumptuous which seeks to call them in question. When science ignores the supernatural, it will be found that she gropes in a dim light. The greatest philosophers the world has known, men like Newton, have found that there can be no true Science which does not make all phenomena ultimately referrable to an intelligent power above nature; also, that the Bible makes clear many things in Science which would otherwise remain obscure.

Division V. In this Division we undertake to prove that No Man is Excused from Obedience to what is Commanded in the Bible. It appeared to be necessary to make a separate Division of that subject; for it involves the philosophy of the Law, and establishes by methodical reasoning the wisdom of the Maxim, "To be ignorant of the law is no excuse." Even the "heathen," who cannot read the Bible, who have never heard of the Christian's God, and who are raised but little above the "brutes," are "without excuse;" and we do not doubt that *some* of these, the very lowest of humanity, have verified the central truth taught in Scripture, that the "plan of salvation" is broad enough for ALL.

Division VI. This Division is entitled "An Easy Method of Interpreting the Bible." It has two parts; the first, "Prominent Facts, and Rules of Interpretation;" the second, "The Divine Government in the Universe as revealed in the Bible; Aided by Science." In the first part we will be materially aided by the Introduction to "*Murphy's Commentary on Genesis*," which gives the best rules of interpretation we have seen. The most important idea to be kept in mind is that "The Bible was written by Man for Man." In Subdivision 10 of the First Part, we lay down a scheme which we think ought to be comprehended at the outset. It is that "The Entire Universe is under a Divine Government;" and, then, in Part Second, we give the Existences in this Government; which we undertake to explain under the lights thrown on each, by both the Bible and Science. We supplement this, with a Chapter, which groups and considers them together. The latter contains a statement of the supposed procedure of God, when he constituted the Godhead and established the laws for the government of these Existences. The Author hesitated for a long time to give even partial publicity to these views, not only because they might be open to criticism as crude and unsound, but because, even if not contrary to Scripture, he feared that they might lead some to form "heretical" opinions. We now print extracts from the Second Part of this Division, not necessarily for "publication" but for our own study, and for the criticism of a few judicious persons, chiefly lawyers, to whom we propose to submit this fragmentary production. If, after this ordeal, it is thought best to publish it, we shall do so, with such modifications and amplifications as may seem advisable. These inquiries are irrepressible; they will be put; they must be considered; and they should be satisfactorily answered, if it be possible. We give our views not so much with any idea that we have found a solution, as with the hope that they may contribute to that end. Tyndall, who is probably the greatest living Physicist, tells us:—

> "The ultimate problem of Physics is to reduce Matter, by analysis, to its lowest condition of divisibility, and Force to its simplest manifestation; and, then, by synthesis, to construct, from these elements, the World as it stands. We are still a long way from the solution of this problem; and when the solution comes, it will be one more of Spiritual insight than of actual observation." (*Fragments of Science*, p. 100.)

Our aim has been to bring the experience of a lawyer to aid the man of Science in solving this problem. When the entire scope of Scripture is generalized, the mind of man can grasp the Theology Theory, as the man of Science comprehends the Atomic Theory. There are but two true Sciences, viz.: The Science of the Natural, and The Science of the *Super*-Natural. The office of each is the ascertainment of Fact; and *both*, rightly employed, determine that there is an Intelligent Power, over and above Nature. Combine the two, and we have a sum of truths which neither, separately, can adequately solve.

DIVISION VII. This is entitled "An Outline of what the Bible Teaches." We will print the "Introduction" to it, which will give a better idea of our plan for simplifying what is taught in the Bible than we can give in a short note. We divide and classify the entire contents of Scripture under these general heads: 1. Obedience; 2. Sacrifice; 3. Circumcision; 4. Covenant; 5. Doctrine; 6. Prophecy; 7. Baptism; 8. Atonement; 9. Resurrection; 10. Judgment. It was the "sin of disobedience" which rendered all the rest necessary. No Bible would have been written if man had observed the Law of Obedience. Adam, to whom was given the faculty of writing as well as of speech, would have confined his record to the Creation and the announcement of the "law of obedience." But the *whole race* sinned in the disobedience of the only then existing "parent stock;" and this rendered necessary a "plan of salvation" to redeem "succeeding generations" from the just consequences of that sin. It has been our aim to set forth this plan in these Outlines, by such a simplicity of classification, that the entire scope of Scripture may be quickly harmonized. This harmony, however, needed to be preceded by an Easy Method of Interpreting the Bible, which we have sought to give in Division VI.

Division VIII. This is "A Dissertation on the Creeds, Confessions of Faith and Religious Sects which are based on the Bible, in whole or part." It has three parts: 1st. "Creeds and Confessions of Faith"; 2d. "Sects, numbering More than One Million Adherents"; 3d. "Sects numbering Less than One Million Adherents." We propose to give as much fulness to these as the Publishers are willing to print. As we wish to issue but one Volume, pains will be taken to condense this Division within 100 pages. We take the ground that all these Sects were necessary; and that each has contributed to the advancement of Religion. We have some views which may possess novelty, in respect to the influence "taste" exerts in Church organizations. We find one whose worship is pre-eminently dignified, even to stately politeness, while we have another whose worship is very noticeably undignified, even to shouting and dancing; yet, rightly understood, all Sects of "Evangelical Christians," between those extremes, verify Paul's idea that these and the intermediate forms fulfil the great essential, viz., "Christ is preached."

Division IX. There are certain portions of the Bible which contain several supposed "mysteries"; some of which, such as the existence of three persons in one God, and some other seeming paradoxes, we have dwelt on in Division VI.; but these were very briefly discussed, because it was only necessary, there, to point out the Existences in the Divine Government, and God's methods of procedure therein. To avoid prolixity, we have inserted this Division, entitled "A Reconciliation with Reason of Seeming Mysteries of the Bible"; in which we undertake to show that *mystery* (so called) was necessary, and that such apparently opposing ideas as "Predestination and Free Agency," "Everlasting Damnation and Infinite Mercy," can be reconciled with reason. The attempts of theologians to reconcile them usually terminate in recommendations to "faith." The difficulty lies not so much in paradox as in the narrowness of interpretation. We will give the most noteworthy of these attempts; and supplement them with some inductive reasonings, as distinguished from the purely logical or deductive process generally employed, to the end that we may ascend, in the argument, from actual existences and concerns of human life, which constitute only parts of a plan, to those higher existences and concerns of heavenly life, from which the whole plan proceeds. We have endeavored so to arrange and discuss the subjects of preceding Divisions as to make our efforts in this comparatively easy.

Division X. This has for its title, " An Appeal, urging Acceptance of the Bible." It enables us to give a rapid *resumé* of the whole work ; to point out, as vividly as we can find language to express, the contrasts between what is good in God and what is bad in man ; to show that man should be convicted, and that he justly deserves to be under a curse of condemnation, to all eternity, and that he would be so cursed and damned, in everlasting torment, without any hope of redemption, whatever, if *man* were the judge ; to dwell on the merciful plan of salvation provided in the Bible ; and, finally, to make an appeal urging man to embrace it, and receive his pardon. All the other Divisions are written as if we were addressing a Court, composed of judges only ; but, in this, we are enabled, for the first time throughout the Work, to employ some of that " rhetoric" which has always been considered, by both bench and bar, as most effective with the *Jury*. We will, however, aim to avoid the profuse style of those Advocates who always have many more words at command than are needed, either to express feeling or give force to exhortation. We have no words to expend in " useless repetition," and propose to condense to about 25 pages, all we have to present in this Division.

We estimate that, if time enough be devoted to the process of condensation, the Volume need not contain more than about 750 pages ; and these may be divided thus :—

Short Titles.	Number of Pages.
1. Existence of God without a Bible,	225
2. Knowledge of God without a Bible,	50
3. Necessity of a Bible,	25
4. The Only True Bible,	100
5. The Bible for Every Man,	25
6. Bible Methods,	100
7. Bible Outlines,	50
8. Bible Sects,	100
9. Bible Mysteries,	50
10. Accept the Bible,	25
Total pages,	750

DIVISION VI.

AN EASY METHOD OF INTERPRETING THE BIBLE.

PART I. Prominent Facts, and Rules of Interpretation.

In Part I. of Division VI. we treat these subordinate topics :—

1. The Bible written by Man.
2. The original Languages in which the Bible was written.
3. Translations of the Bible.
4. The Bible written for Man.
5. Man's Standpoint in the Bible.
6. God's Standpoint in the Bible.
7. Man's Mental Capacity limited.
8. God's Mental Capacity unlimited.
9. Rules of Interpretation.
10. The Entire Uuiverse is under a Divine Government.

In Subdivision 10, the Divine Government is foreshadowed. We omit, in this fragmentary publication, what we have to say on these topics ; and proceed to give *extracts* from what we have written under Part II. of Division VI.

PART II. THE DIVINE GOVERNMENT IN THE UNIVERSE, AS REVEALED IN THE BIBLE; AIDED BY SCIENCE.

There is a DIVINE GOVERNMENT, in which the Governor and the governed comprise the Universe. In this Government, there are these Existences :—

1. The uncreated intelligent First Cause, viz., God the Father.

2. The uncreated intelligence, begotten of the Father, viz., God the Son.

3. The uncreated intelligence, proceeding from the Father and the Son, viz., God the Holy Ghost.

4. The constitution of these three, in one God, viz., The Godhead.

5. The created non-intelligent abode of God, viz., Heaven.

6. The rational created intelligences of Heaven, viz., Angels and their kind.

7. The created non-intelligent and inert elements, viz., Matter.

8. The created non-intelligent and vital things, viz., Plants.

9. The irrational created intelligences of the Earth, and, it may be, of other worlds, viz., The Lower Animals.

10. The rational created intelligences of the Earth, and, it may be, of other worlds, viz., Mankind.

We will proceed to treat each of these as a separate topic; and will then group and consider them together.

* * *

1. God the Father.

A human father is best known to us as the head of a family. And it is so in the Divine Government; the Father is the Head. This is necessarily implied whenever the titles Father and Son are used. The Father takes precedence of the Son, whether in the Divine or in the family Government.

There is nothing in Scripture to contradict this. On the contrary, its statements verify it.

The Old Testament writers do not expressly mention the Father, as first in the Godhead, except in prophicies of the coming of the Son upon the Earth.

Ps. 2: 7. "Thou art my Son, this day have I begotten thee."
12. "Kiss the Son, lest he be angry, and ye perish."
89: 27. "I will make him my first born, higher than the kings of the earth."
Is. 9: 6. "Unto us a Son is given, and the government shall be upon his shoulders."

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He is referred to, however, in the Old Testament, as the Father of *men*:—

Deut. 32: 6. "Do ye thus requite the Lord, O foolish people, and unwise? Is not he thy Father *that* hath bought thee? Hath he not made thee, and established thee?"

Is. 63: 18. "Doubtless thou art our father, though Abraham be ignorant of us, and Israel acknowledge us not: thou O Lord, art our Father, our Redeemer, thy name is from everlasting."

Is. 64: 8. "But now, O Lord, thou art our father: we are the clay, and thou art our potter, and we are all the work of thine hand."

1 Chr 29: 10. "Wherefore David blessed the Lord before all the Congregation: and David said, Blessed *be* thou, Lord God of Israel our father, for ever and ever."

Ps. 89: 26. "He shall cry unto me, Thou *art* my father: my God, and the rock of my salvation."

Is. 3: 4. "Wilt thou not from this time cry unto me: My father thou *art* the guide of my youth?"

Ps. 68: 5. "A father of the fatherless, and a judge of the widows, *is* God in is holy habitation."

Ps. 103: 13. "Like as a father pitieth *his* children: *so* the Lord pitieth them that fear him."

Prov, 23: 24. "The father of the righteous shall greatly rejoice:"

Jer. 31: 9.—"for I am a father to Israel,"

Mal. 1: 6.—"if then I *be* a father,"—

Mal. 2: 10. "*Have* we not all one father? Hath not one God created us?"

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In these passages the Father means the Son, who is the Creator, as we shall presently see, in the next Subdivision. (*Post*, p. 203.)

The Son, while man, that is, when "manifest in the flesh," (1 Tim. 3: 16,) repeatedly speaks of himself and is often spoken of as being *sent* by his Father, in such passages as these:—

John 4: 34. "Him that sent me."
5: 23. "Father who sent me."
11: 42. "Thou hast sent me."
1 John 4: 14. "And we have seen and do testify that the Father sent the Son."

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The Son likewise *returned* to his Father.

John 16: 5. "I go my way to him that sent me."
20: 17. "Jesus said, I ascend to my Father."

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The Father gave the Son *commandment.*

John 12: 49. "The Father who sent me gave me commandment."

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The Son was *begotten* by the Father.

John 1: 14. "The only begotten of the Father."
18. "The only begotten Son."

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The passages referring to the Son in his human nature necessarily imply that the Father took precedence from the beginning.

This will be better seen, when we come to speak more particularly of the Son and of the Holy Ghost.

The chief characteristic of the Father is OMNISCIENCE.

2. God The Son.

The Son existed prior to any of the works of creation. He was God before he became man.

John 1 : 1. "In the beginning was the Word, and the Word was with God, and the Word was God."

It will be well for us to consider, here, what is meant when the Bible speaks of "the beginning." Murphy translates [Hebrew word] "*head-part, beginning*, of a thing, in point of time, (Gen. 10 : 10,) or value. (Prov. 1 : 7.)" He adds :—"Its opposite is [Hebrew word.] (Is. 46 : 10.) [Hebrew word, again,] *in the beginning* is always used in reference to time. Here only is it taken absolutely." (*Murphy's Commentary on Genesis*, p. 25.) This expression, then, is used not only in respect to time, which could have had no existence until there was an act of creation, but it is also used in respect to the first exercise of God's will, in establishing the Divine Government ; which establishment preceded any act of creation, whatever. The absolute beginning was the "begetting" of the Son by the uncreated intelligent First Cause, who is, by way of precedence, called the Father.

Beget means not only, "To procreate, as a father or sire, to generate" ; but it also means, "To produce, as an effect." (*Webster's Dictionary.*)

An uncreated intelligent First Cause involves the idea of a *passive* intelligence beginning to act. Although passive, this intelligence did not any the less possess the attributes which were afterwards displayed when it became an active intelligence ; and, when it became active, it did not possess any more attributes. In either condition, God passive, or God active, his attributes were precisely the same.

Malachi 3 : 6. "I am the Lord, I change not."

James 1 : 17. "With whom is no variableness, neither shadow of turning."

An ATTRIBUTE is "that which is considered as belonging to or inherent in." (*Webster's Dictionary.*)

The first effect, caused by this uncreated intelligent First Cause, was the production, *from out of itself*, of a Being, who embodied some or all of these attributes, or a portion of them ; probably *all* of them.

Col. 2 : 9. "In him [the Son] dwelleth the fulness of the Godhead bodily."

He who caused this, styled himself the Father ; and spoke of the Being, thus produced, as his "only begotten Son."

John 3 : 16. "For God so loved the world, that he gave his only begotten Son."

John 1 : 14. "And the Word was made flesh, and dwelt among us. And we beheld his glory, the glory of the only begotten of the Father."

Heb 1 : 6. "He bringeth in the first begotten into the world."

1 John 4 : 9. "God sent his only begotten Son into the world."

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To be thus begotten necessarily made the Son second to the Father ; second, at least, in the process of establishing the Divine Government.

Let us suppose a portion of the oxygen of the atmosphere to be separated from the other constituents of air. The portion thus separated would not be created ; for it existed before. It is produced from, or "begotten" of the atmosphere. There is no more nor any less oxygen than there was before, but the oxygen is now differently disposed and embodied. It is not necessary to attempt to carry this illustration further. We introduce it simply to convey an idea how the attributes of the Father may be disposed and embodied, without diminution of quantity, or alteration of substance. The air was first ; the separated oxygen is second ; yet, both always have been equal in respect to beginning and duration.

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We have seen that Father and Son are terms expressive of relation ; that the Father is the Head, in the Divine

Government; because it was he who, as the First Cause, took the first step, from God passive, to God active, by "begetting," or causing to come forth, from himself, and embodying what was there before, and which, like himself, was uncreated; and that this *product* (so to speak) from himself, he called his Son. The Father was, in the first place, The All. He, as the Entirety of Existence, eliminated from his Whole Being, certain inherent qualities or properties, essences or substances, belongings or attributes, whatever the same may be properly called, which he caused to take form, or to be disposed, or to be embodied, or to be "imaged."

It may be that this embodiment included his ALL, *excepting only, that intellectual part of him which, in man, would be called the* WILL.

Col. 2: 9. "In him dwelleth the fulness of the Godhead bodily."

Col. 1: 19. "For it pleased the Father that in him should all fulness dwell."

This word Will is so fraught with meaning that it has been made the subject of many treatises. Webster defines it thus:

"WILL. 1. That faculty of the mind by which we determine either to do or to forbear an action; the faculty which is exercised in deciding, among two or more objects, which we shall embrace or pursue. The will is directed or influenced by the *judgment*. The *understanding*, or *reason*, compares different objects, which operate as motives; the *judgment* determines which is preferable, and the *will* decides which to pursue. 2. Choice; determination. 3. Choice; discretion; pleasure. 4. Command; direction. 5. Disposition; inclination; desire. 6. Power; arbitrary disposal. 7. Divine determination; moral purpose or counsel."

When a man "wills" to do a thing, he has the *power* to choose to do something else, e. g. the contrary; and, it is claimed by able thinkers that this "power" has never been put in exercise, either by God or man. (See *Whedon on the Will* reviewed and criticised in *Danville Review*, Dec. 1864, pp. 507, 508.)

"All admit that this contrary power has never been put forth in exercise. God is affirmed to be under the same law; he is an agent in whom is also found this choice; but neither God nor angel, neither man nor devil, ever exerted or exercised this power. More than this, it is affirmed that no such exertion ever will take place." (*Danville Review*, Dec. 1864, p. 508.)

Whether such reasoning be sound or not, the fact remains that man's Will is a Power, and that it belongs to his Mind.

We intend to keep clear of any extended or close reasoning on this point ; because it is sufficient for our purpose, if we concede that the power of contrary choice has never been proven by its actual exercise ; in other words, if we admit that this power has never been exercised by the positive doing of a thing not actually done ; which would be a glaring contradiction. We all know that if we do a thing, we have a choice and power not to do it. This power we know we have ; notwithstanding we do not prove that we have it, by an actual choosing to do and the actual doing of the contrary. We know we do exist ; and nothing is gained if we know we might never have existed. We know the Son was begotten ; and nothing is gained if we know he might never have been begotten. We should accept as fact *what is.* This is the first exaction of every " exact science" ; whether we understand the method of the causation or not.

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[It may be doubted whether there is really any *exact* science, except Chemistry, which, to us, appears to underlie every other so called science. Even astronomy, which comes next to it, in exactitude, is dependent upon it. Mathematics is not so much a science as it is an intuition, while Chemistry is based on *deductions* from facts, alone. No other theory of science can lay claim to such *precision* as belongs to Chemistry.]

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If the Will in man immediately causes him to do a thing, then the Will may properly be said to be the Head or Father of the whole man. And, by analogy, we can think of the Will in God as immediately moving him to do a thing ; and this would enable us to think of him as the Head or Father of the whole God,—the intelligent First Cause in the Godhead.

When the Son became man he had two distinct natures, in one person, namely, the Divine and the human ; and he said some things, on the Earth, which could be true in only one nature.

In his human nature he declared his inferiority to the Father ; and was subject to the Father's Will.

John 14 : 28. "The Father is greater than I."

John 20 : 17. "I ascend to my Father and your Father ; to my God and your God."

John 5 : 30. "I can of mine own self do nothing ; as I hear I judge ; and my judgment is just, because I seek not mine own will, but the will of the Father, which hath sent me."

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It was in his human nature that he was a sufferer and endured infirmities.

Is. 53 : 3 : "A man of sorrows and acquainted with grief."

Heb. 4 : 15. He was "touched with the feeling of our infirmities."

Matt. 4 : 1. He was "tempted."

Matt. 4 : 2. He "fasted" and "hungered."

John 19 : 28. He said "I thirst."

John 4 : 6. He was "wearied with his journey."

Matt. 8 : 24. "He was asleep."

John 11 : 35. "Jesus wept." (Luke 19 : 41.)

Mark 3 : 5. He was "grieved."

John 12 : 27. "Now is my soul troubled."

Matt. 26 : 37. "He began to be sorrowful and very heavy."

Matt. 8 : 20. "The foxes have holes, and the birds of the air have nests, but the Son of Man hath not where to lay his head."

Luke 22 : 44. "Being in an agony he prayed more earnestly ; and his sweat was, as it were, great drops of blood, falling down to the ground."

In his Divine nature he claimed to be "Equal with God," (Phil. 2 : 6,) and he remembered his existence before he became man.

John 17 : 5. "And now, O Father, glorify me with thine own self with the glory which I had with thee before the world was."

John 8 : 15. "Before Abraham was, I am."

John 6 : 62. "What and if ye shall see the Son of Man, ascend up where he was before."

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He possessed Divine power while here upon the Earth.

John 10 : 17. "Therefore, doth my Father love me ; because I lay down my life that I might take it again. 18. I have power to lay it down, and I have power to take it again."

John 2: 19. "Destroy this temple, and in three days I will raise it up. . . . . . . 21. He spake of the temple of his body."

John 5: 21. "As the Father raiseth the dead, and quickeneth them, even so the Son quickeneth whom he will."

Luke 7: 22. "Go your way and tell John what things ye have seen and heard; how that the blind see, the lame walk, the lepers are cleansed, the deaf hear, the dead are raised."

"John 2: 11. "This beginning of miracles did Jesus," and "manifested his glory."

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His power, both before and after he became man, and since he *returned* to the Father, has been Divine.

John 1: 3. "All things were made by him, and without him was not any thing made that was made."

Col. 1: 16. "For, by him were all things created that are in heaven, and that are in earth, visible and invisible, whether they be thrones, or dominions, or principalities or powers; all things were created by him, and for him. 17. And he is before all things; and, by him, all things consist. 18. And he is the head of the body, the Church; who is the beginning; the first born from the dead; that, in all things, he might have the preëminence. 19. For, it pleased the Father that in him should all fulness dwell."

Phil. 2: 6. "Equal with God."

Rom. 9: 5. "Christ, who is over all, God blessed forever."

Titus 2: 10. "God our Saviour."

Col. 2: 9. "In him dwelleth the fulness of the Godhead, bodily."

Rev. 17: 14. "King of Kings, and Lord of Lords."

Is. 9: 6. "Unto us a Son is given, and the government shall be upon his shoulders and his name shall be called

Wonderful,
Counsellor,
The Mighty God,
The Everlasting Father,
The Prince of Peace."

Verse 17. "Of the increase of his government there shall be no end. Upon the throne of David, and upon his Kingdom, to order it and to establish it, with judgment and with justice, from henceforth, even forever. The zeal of the Lord of hosts will perform this."

The appellation "The Everlasting Father," as applied to the Son, in Is. 9: 6, is the only instance in which the Old Testament speaks of him as the "Father." To call the Son the Father appears to be a paradox. It is a seeming contradiction. But, when we consider that Father means the Head of a Family; and when we invest the Church, which Christ established, with the title of *Daughter*, God the Son is truly the Head of the Church.

Cant. 7: 1. "O Prince's Daughter."

The Church is often referred to as the Daughter of Zion, and sometimes as the Daughter of Jerusalem. (See these titles in *Cruden's Concordance.*) The word FATHER is defined by *Webster*, amongst other things, as a "term of respect"; as one who "supports or exercises paternal care over"; as "the author, former or contriver"; as a "founder, director or instructor"; and, again, as an "adopted father" . . . . . . "He who adopts the children of another [e. g. the children or members of the Church] and acknowledges them as his own."

Col. 1: 18. "He [the Son] is the head of the body, the Church."

Eph. 5: 23. "For the husband is the head of the wife, even as Christ is the head of the Church."

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Sometimes the Son speaks of himself and is spoken of, at the same time, as both God and Man.

Gen. 49: 10. "The sceptre shall not depart from Judah, nor a Lawgiver from between his feet, until Shiloh come; and unto him shall the gathering of the people be."

Shiloh is here understood to be the coming of the Son on the Earth. In *Scott's Commentaries* (Vol. 1, p. 178.,) it is said:

> "The word Shiloh may mean *He who is sent*, or *The Seed*, or *The Peaceable*, or *the Prosperous One;* but all allow that the Messiah was intended, who was sent into the world, as the promised Seed, to be the Prince of Peace."

And in *Murphy's Commentaries on Genesis*, (p. 505) that Author translates Shiloh as "The *Peacemaker*, the *Prince of Peace*."

Is. 9: 6. "Unto us a Son is given, and the government shall be upon his shoulders; and his name shall be called . . . . . The Prince of Peace."

John 10: 30: "I and my Father are one."

John 12: 45: "He that seeth me, seeth him that sent me."

John 5: 26. "As the Father hath life in himself; so hath he given to the Son to have life in himself."

John 17: 1 to 26. Read the whole chapter, which contains the prayer of Christ to the Father, shortly before his work on the Earth was finished.

John 17: 4, 5. "I have glorified thee on the Earth: I have finished the work which thou gavest me to do. 5. And now, O Father, glorify thou me, with thine own self, with the glory which I had with thee before the world was. . . . . . . 22. And the glory which thou gavest me, I have given them: that they may be one, even as we are one. . . . . . . 23. I in them, and thou in me, that they may be perfect in one, and that the world may know that thou hast sent me, and hast loved them, as thou hast loved me. . . . . . . 24. Father, I will that they also whom thou hast given me, be with me where I am, that they may behold my glory which thou hast given me: for thou lovedst me before the foundation of the world."

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We have spoken of the Son as uncreated; but there is one passage in the English translation which seems to speak of him as "created;" and this requires explanation.

Rev. 3: 14. "And unto the Angel of the Church of the Laodiceans write:—These things saith the Amen, the faithful and true witness, the beginning of the creation of God."

This does not mean that the Son was created like the Angels; but that he was begotten or produced by the Father, as the first step towards constituting the Godhead and establishing the Divine Government. Among the definitions of CREATION given by *Webster*, we have these:—"the act of shaping and organizing"; . . . . "the act of investing with a new character, as the *creation* of a new lordship"; . . . "any thing produced or caused to exist." (See, also, *Murphy's Commentary on Genesis*, p. 25.)

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We should always bear in mind his two natures and carefully discriminate between each. In another connection we will undertake to show that this two-fold nature was necessary in order to redeem man from the just consequences of Disobedience. At this stage of the investigation, we confine ourselves to the simple statement that the Son was God, from "the beginning," i. e. *from all eternity*. We will speak, particularly and more at large, of his mission on the Earth when we come to dwell in Division VII. on Baptism, the Atonement, the Resurrection and the Judgment; when the "new dispensation" was substituted for the old. We are now dealing with the second person in the Godhead, solely with the view of ascertaining, as nearly as it is permitted to man, how the uncreated intelligent First Cause proceeded in the establishment of the Divine Government; the constitution of which as we have already seen, preceded any act of creation whatever.

The chief characteristic of the Son is OMNIPOTENCE.

3. GOD THE HOLY GHOST.

The Bible distinguishes the Holy Ghost or Holy Spirit as a distinct personality in the Divine Government; and teaches not only that the Father is first and the Son second, but that the Holy Ghost is third. He came after the Father and the Son, in the same sense that the Son came after the Father. Neither the Son nor the Spirit were distinguishable as such until the Divine Government was initiated by the Father; and the Spirit was not distinguishable as such until the Son appeared therein.

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In respect to the Son, as the second, we have endeavored to make our meaning clear by an illustration of separating oxygen from the constituents of air. With the Holy Ghost such an illustration will not adequately serve. We should rather liken him to the Force which unites the constituents or elements of air. Science professes to have discovered that Physical Forces are so correlated and conserved by the laws which govern combinations of the elements of matter that we have come to consider "the correlation and conservation of physical forces" as fixed accompaniments of every material thing in the universe.

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We can think of the Father as the Mind, of the Son as the Body, and of the Spirit as the Force. We can think of the Father as the Will, of the Son as the Executive, and of the Spirit as the Influence. We can think of the Father as Deciding, of the Son as Effecting, and of the Spirit as Conserving. We can think of the Father as Choosing, of the

Son as Declaring the Choice, and of the Spirit as Moving the Choice. We can think of the Father as the "Power behind the Throne," of the Son as the "King on the Throne," and of the Spirit as the "Keeper of the King's Conscience."

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We can think of all three, and the relation of each to the others, the same as we can think of the mind, the body and the soul of man; that is, of his intellectual, physical, and moral natures. Mind and body we know we have, and *soul* appears to be the best word to convey an idea of the spiritual part of man. It is used in several senses; so is spirit; so is mind; so is body; so are many other words of common use. In *Cruden's Concordance,* (2d ed. London, 1761,) the long list of passages in which the word appears is preceded by an introductory note, explanatory of the senses in which it is taken:—

"1. For that spiritual, reasonable, and immortal substance in man, which is the origin of our thoughts, of our desires and of our reasonings; which distinguishes us from the brute creation, and in which chiefly consists our resemblance to God. Matt. 10: 28. *Fear him which is able to destroy both soul and body.* This substance must be spiritual, because it thinks; it must be immortal because it is spiritual. The Scripture indeed ascribes to beasts a soul, a spirit, life and respiration, which may be a second acceptation of the word, as in Gen. 1: 24. *Let the earth bring forth the living creature,* in Hebrew, *the living soul.* So, in Lev. 17: 11. *The life,* in Hebrew, *the soul, of the flesh is in the blood.* And in Eccl. 3: 21. *Who knows the spirit of the beast which goeth downward?* This soul is the spirit, the breath, which is the principle of animal life, and which is common to man and brutes. But the Scripture allows to man alone the privilege of understanding the knowledge of God, wisdom, immortality, the hope of future happiness, and of eternal life. It only threatens men with the punishment of another life and the pains of hell.

"2. Soul is taken for the whole person, both soul and body. *Give me the persons,* in Hebrew, *souls, and take the goods to thyself,* says the King of Sodom to Abraham. Gen. 14: 21. And in Gen. 12: 5, *Abram took Sarai his wife, and Lot his brother's son, and all their substance that they had gathered, and the souls that they had gotten in Haran;* that is, the servants they had purchased, or the children that had been born to them.

"3. It is taken for the life of man. Ps. 33: 19, *To deliver their soul from death,* to save them alive. And in Ps. 7: 5 *Let the enemy persecute my soul, and take it;* let him take away my life And, often, in the Psalms.

"4. It is taken sometimes for death, or a dead body. Num. 9: 6, *Some were defiled by the dead body of man,* in Hebrew, *by the soul of a man.* And in Num. 6: 6, *He shall come at no dead body,* in Hebrew, *dead soul.* Also, in Ps. 16: 10, *Thou wilt not leave my soul in hell;* that is, thou wilt not suffer my body to continue long in the grave, or in a state of death. Sometimes, it is taken for a living body. Ps. 105: 18, *He was laid in iron*, in Hebrew, *his soul came into iron.*

"5. It is used for desire, love, inclination. Gen. 23: 8, *If it be your mind*, in Hebrew, *if it please or be agreeable to your soul.* 1 Sam. 18: 1. *The soul of Jonathan was knit with the soul of David;* he had a great love and affection for him. So, in Prov. 27: 7, *The full soul;* that is, a man whose desire or appetite is fully satisfied."

When we speak of the population of a country as being so many "souls" we refer to all the inhabitants of that land; and designate them by the term which denotes the most important part of their natures. And it is, for the same reason, that we often say, so many "souls" perished, when there is a shipwreck or other disaster. The word occurs several hundred, it may be one thousand, times, in the Bible. The chief sense in which it is there used is the one first given by Cruden, viz., that it is a spiritual *substance* in man, "which distinguishes us from the brute creation, and in which, chiefly, consists our resemblance to God."

Gen. 2: 7. "The Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul."

This verse, paraphrased, in the lights of modern science, might be made to read thus:—"The Lord God formed [that is, made] man of the dust of the ground, [that is, he made his *body* of then existing elements of matter,] and breathed into his nostrils the breath of life; [that is, he introduced through his nostrils, into his throat and lungs, and, thence, to the heart, the arteries, the veins and the "tissues," the "life principle;" so that these elements, theretofore inert, might become, when thus compounded and formed, permanent and active, to grow and reproduce by a "vital force" which his breath made inherent of that body;] and man, [thereby and thereupon, and not otherwise,] became a living [that is, a permanent and perpetuating] soul;" that is to say, the cells of mind within the cells of ether in the interstices among the atomic elements of matter which composed his body became filled with a *spiritual substance.* (See *Ante*, p. 181, *et seq.*)

This substance was not "matter;" nor a "*physical* basis of life;" nor a "property of matter." Body, formed of atoms, may be resolved into its original elements. To so resolve is to disintegrate, decompose, scatter. The indwelling non-material substance which made man a living soul does not thereby become destroyed nor lose its identity; it simply becomes disconnected from its "earthly tabernacle." It was uncreated permanent substance which God implanted in created man. That substance, thus implanted, continued permanent. It was imparted; not created. Therefore, it is immortal. It can never die; nor be "resolved."

The soul of man is not his *mind*. The soul, however, is so linked with both body and mind, that, while the man exists in his threefold nature,—that is, while he has a "natural body," he thinks through his mind and acts through his body and soul. But when he is physically dead; that is, when the atoms of which his body was formed are resolving or resolved into their original elements,—his mind, which is not matter, although it may, perhaps, be a "modification of matter", (*post* p. 240,) continues to dwell with his "spiritual body;" and, then, he thinks through his mind just the same, only more clearly, because unfettered by matter; and, then, he acts through his soul just the same, only without fatigue, because it is unencumbered with matter.

All this is taught in the Bible. The passages which directly or indirectly refer to this threefold nature in man, are abundant.

1 Cor. 15: 44. "There is a natural body and there is a spiritual body."

Rom. 7: 22. "For I delight in the law of God after the inward man. 23. But I see another law in my members warring against the law of my mind."

2. Cor. 4: 16. "But though our outward man perish, yet the inward man is renewed day by day."

Luke 10: 27. "Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy strength and with all thy mind."

Eph. 4: 22. "That you put off concerning the former conversation, the old man, which corrupt according to the deceitful lusts: 23. And be renewed in the spirit of your mind: 24. And that you put on the new man, which after God is created in righteousness, and true holiness."

1 Cor. 6: 19. "What, know you not that your body is the temple of the Holy Ghost, which is in you, which ye have of God?"

(See *Cruden's Concordance*, tit. MIND, BODY, SOUL. See, also, *post* p. 220)

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We locate the mind, which decides whether we will do right or wrong, mostly in the brain; the soul, which moves us to do right, mostly in the heart; and the power, which enables us to do what the mind decides, mostly in the members. We so locate each almost instinctively. There are physical reasons for this:— [Here give reasons.]

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Shelley, the infidel poet, draws a very vivid picture of a fairy, supposed to possess supernatural power, causing the soul of a sleeping maid to leave the body and ascend a magic car to realms remote where, with new and increased powers of vision, she shows her a panorama of the past, present and future. The whole poem scoffs at religion; but it shows that such a thinker finds little apparent difficulty in giving shape to the idea that the soul may be disembodied and retain both its identity and intelligence. [Here insert extracts from *Queen Mab*.]

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It is only by analogy that we can think of God at all. It is only by comparison that we can think of anything whatever. (*Ante*, p. 82.) It is only by analogy to man or something in man that the Bible speaks of God.

Gen. 1: 27. "God created man in his own image; in the image of God created he him; male and female created he them."

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In *Hitchcock's Analysis*, Book II., Chapter II., entitled "ANTHROPOMORPHIC AND ANTHROPOPATHIC REPRESENTATIONS OF GOD," we find collated the several passages of Scripture which refer to God as resembling man not only in form and features, but in passions and actions. He distributes such passages under these heads, as to the anthropomorphic representations:—

1. God appears in Human Form. (§ 16.)
2. Face. (§ 17.)

3. Eyes.
4. Nostrils.
5. Organs of Speech; Breath.
6. Shoulders.
7. Hand.
8. Fingers.
9. Back.
10. Feet.

And under these heads, as to the anthropopathic representations:—

1. Uses a Human Voice. (§ 18.)
2. Laughs and Sleeps. (§ 19.)
3. God a Warrior. (§ 20.)
4. Uses Weapons. (§ 21.)
5. Uncertain of the Future. (§ 22.)
6. Grieved. (§ 23.)
7. Jealous. (§ 24.)
8. Angry. (§ 25.)
9. Hating. (§ 26.)
10. Taking Vengeance. (§ 27.)
11. Seeks his own Glory. (§ 28.)
12. Solicitous for the Holiness of his Name. (§ 29.)
13. Makes Oath to his Purposes. (§ 30.)
14. Repents and Changes his Purposes. (§ 31.)
15. Deterred from his Purpose. (§ 32.)

(See *Hitchcock's Analysis*, pp. 18 to 23. New York: A. J. Johnson. 1869–1873.)

Philosophers may descant upon the "understanding," the "will," the "faculties," the "reason," the "judgment" and upon any other peculiarities of the "intellect," and may reason upon the relation which exists between the mind and the body; but we wish, so far as we can, to strip the argument of all subtlety of reasoning and come down to the naked fact, which we all know, viz., that man *has* a mind which seems to radiate from the brain, and that *mind* is distinct from something else within us, which is not matter; something of a spiritual nature which seems to radiate from the heart. We know, even a savage knows, that to will to do a thing and to do it is distinct from a consciousness of whether it ought or ought not to be willed and done. Let us adhere to what we all understand. The terms mind, body and soul, each has a signification we cannot mistake. They are separate and distinct. We know this the same as one of the lower animals clings to the instincts of its nature. We may plunge headlong against all the arguments of the metaphysician, heedless of consequences, and regardless of his powers of reasoning, so long as we *know* this. We listen to his arguments and when he pauses we may interpose the irrepressible BUT. We are sure we have a mind to will, and a soul [conscience] to restrain, and a body to execute the final decision which is "discussed" between mind and soul [conscience]; and it matters not, up to this point of the inquiry, how they consist or in what way they operate the one upon the other. We know the existence of the laws which make it certain that there is "chemical affinity," and "gravitation," and the like, in respect to the manifestations of matter. We are certain of their existence, although any sufficient explanation of their operation as natural phenomena may never be given.

But the analogies we have employed should not be allowed to mislead us into any such idea as that which is held by some who are styled "heretical sects."

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[Dr. A. A. Hodge's *Outlines of Theology*, pp. 139, 140.]

The Holy Ghost speaks of himself as a person and as God.

Acts 13: 2. "The Holy Ghost said: Separate me Barnabas and Saul for the work whereunto I have called them."

Heb. 3: 7, 8. "Wherefore, as the Holy Ghost saith: . . . . when your fathers tempted me, proved me and saw my works."

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He is spoken of as a person and as God.

John 15: 26. The Son says: "He shall testify of me."

John 16: 13, 14. The Son says: "He will guide you . . . . He shall hear . . . . He will show you things to come."

Acts 15: 28. "It seemed good to the Holy Ghost."

Acts 16: 67. "They . . . . . were forbidden of the Holy Ghost . . . . . . the Spirit suffered them not."

"Acts 28: 25. "Well spake the Holy Ghost by Esaias the prophet, unto our fathers, saying"—

Rom. 15: 16. "Being sancified by the Holy Ghost."

1 Cor. 2: 13. "Which things also we speak; not in the words which man's wisdom teacheth; but which the Holy Ghost teacheth."

Acts 1: 16. "This Scripture must needs have been fulfilled which the Holy Ghost by the mouth of David spake."

2 Pet. 1: 21. "For the prophecy came not in old time by the will of man; but holy men of God spake as they were moved by the Holy Ghost."

Heb. 2: 4. "Gifts of the Holy Ghost."

Eph. 4: 30. "Grieve not the Holy Spirit."

1 John 5: 7. "There are three that bear record in Heaven, the Father, the Word and the Holy Ghost."

Matt. 12: 31. The Son says: "Wherefore I say unto you: All manner of sin and blasphemy shall be forgiven unto men; but the blasphemy against the Holy Ghost shall not be forgiven unto men." (Mark 3: 29. Luke 12: 10.)

This teaches that God abhors ingratitude; so do men. If there is any thing we cannot forgive it is to spurn and abuse our love; which "comes from the heart."

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He appears to be third, not only because he is named last in order, but because he is *given* and *sent* by both the Father and the Son.

Ps. 51: 11. "Take not thy Holy Spirit from me."

John 14: 26. The Son says: "But the Comforter, which is the Holy Ghost, whom the Father will send in my name, He shall teach you."

1 Pet. 1: 12. "Holy Ghost sent down from Heaven."

Luke 11: 13. The Son says: "If ye, then, being evil, know how to give good gifts unto your children, how much more shall your Heavenly Father give the Holy Spirit to them that ask him."

Acts 5: 32. "The Holy Ghost whom God hath given."

1 Thess. 4: 8. "God, who hath also given unto us his Holy Spirit."

Matt. 28: 19. The Son says: "Go ye, therefore, and teach all nations, baptizing them in the name of the Father and of the Son and of the Holy Ghost."

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But it nowhere appears that either the Father or the Son has ever been sent by the Holy Ghost; which confirms the fact that he "proceeds" from them, and is therefore third.

He has appeared to man visibly, audibly and tangibly, manifesting himself as a distinct person.

Ex. 33: 20, 21, 22, 23. "Thou canst not see my face, for there shall no man see me and live. And the Lord said, Behold there is a place by me, and thou shalt stand upon a rock, and it shall come to pass, while my glory passeth by that I will put thee in the cleft of the rock and will cover thee with my hand while I pass by. And I will take away mine hand, and thou shalt see my back parts; but my face shall not be seen."

Ex. 34: 29, 30. "And it came to pass when Moses came down from Mount Sinai with the two tables of testimony in Moses' hand, when he came down from the mount, that Moses wist not that the skin of his face shone, while he talked with him [Aaron]. 30. And when Aaron and all the children of Israel saw Moses, behold the skin of his face shone, and they were afraid to come nigh him."

Luke 3: 22. "And the Holy Ghost descended in a bodily shape like a dove upon him," [the Son.]

Acts 2: 2, 3, 4. "And suddenly there came a sound from heaven, as of a rushing mighty wind, and it filled all the house where they were sitting; 3. And there appeared unto them cloven tongues like as of fire, and it sat upon each of them. 4. And they were all filled with the Holy Ghost."

Acts 4: 31. "And when they had prayed, the place was shaken where they had assembled together, and they were all filled with the Holy Ghost, and they spake the word of God with boldness."

1 Cor. 6: 19. "What, know ye not that your body is the temple of the Holy Ghost, which is in you, which ye have of God?"

2 Pet. 1: 21. "Holy men of God spake as they were moved of the Holy Ghost."

Acts 16: 26. "And suddenly there was a great earthquake, so that the foundations of the prison were shaken, and immediately all the doors were opened and every one's bonds were loosed."

Luke 1: 35. "The angel speaking to Mary said: The Holy Ghost shall come upon thee."

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Matt. 1: 18, 20. "Conceived of the Holy Ghost."

Matt. 3: 11. John the Baptist says, "I indeed baptize you with water . . . . . . but he that cometh after me is mightier than I . . . . . . He shall baptize you with the Holy Ghost and with fire."

Luke 1: 15. John the Baptist "was filled with the Holy Ghost."

Luke 1: 41. "Elizabeth was filled with the Holy Ghost."

Luke 1: 67. "Zacharias was filled with the Holy Ghost"

Luke 2: 25. "And behold there was a man in Jerusalem whose name was Simeon . . . . . . and the Holy Ghost was upon him; 26. And it was revealed unto him by the Holy Ghost that he should not see death before he had seen the Lord's Christ; 27. And he came by the Spirit into the temple."

Luke 4: 1. "And Jesus being full of the Holy Ghost, returned from Jordan, and was led by the Spirit into the wilderness."

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There are many more passages which show the personality and Divinity of the Holy Ghost, some of which will be quoted when we come to speak of his union with the Father and Son, in the Godhead. The quotations we have given leave no room for doubt that the Holy Ghost is a person; and that he is not merely personified in these passages as a rhetorical figure. It is true that an energy or force, an attribute or a sentiment may be spoken of as if it was a person. This has been done by writers and speakers in all ages, and it is common for men to so write and speak in the present day. As "the Bible was written by man for man" it is no exception to this general habit of thought and style of expression. It abounds in metaphors and similes, and even in hyperboles; but no more so than many other books on grave subjects. Such expressions, when used in other books and in the spoken language of men, are not considered unusual nor extraordinary; and should not be treated as peculiar to the Sacred Volume.

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The chief characteristic of the Holy Ghost is OMNIPRESENCE.

4. The Godhead.

The three uncreated intelligences which constitute the Godhead, are one God. We can only comprehend this by analogy. The nearest analogy which we have to this, is the mind, the body and the soul [spirit] of a human being, which constitute the Manhood, and are one man. While they can be separately distinguished, and we may know something of the peculiar office of each, they are so blended that one does not act without the coöperation of all. God has revealed to us as much concerning the process by which he reasons, decides and acts, as we we have been able to find out concerning the process by which we, ourselves, reason, decide and act. There is no more mystery in the one case than there is in the other. When we know ourselves unto perfection, it will be less presumptuous for us to hope, by searching, to find out God unto perfection.

Job 11 : 7. "Canst thou by searching find out God? Canst thou find out the Almighty unto perfection?"

Eccl. 3 : 11. "No man can find out the work that God maketh from the beginning to the end."

Rom 11 : 33. "How unsearchable are his judgments, and his ways past finding out.

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But God has made and will make known to us many things concerning himself, and the constitution of the Godhead.

Ps. 76 : 1. "In Judah is God known."

Job 26 : 14. "Lo, these are parts of his ways; but how little a portion is heard of him."

Is. 11 : 9. "The earth shall be full of the knowledge of the Lord."

Rom. 1 : 20. "The invisible things of him from the creation of the world, are clearly seen, being understood by the things that are made, even his eternal power and Godhead."

1 John 5 : 7. "There are three that bear record in Heaven, the Father, the Word [the Son] and the Holy Ghost ; and these three are one."

There is only one God.

1 John 5 : 7. "these three are one."
Deut. 6 : 4. "God is one Lord."
1 Cor. 8 : 4. "There is none other God but one."

The word Trinity is not used in the Bible : and the word *Godhead* is only used three times.

Acts 17 : 29. "nor think that the Godhead is like to gold."
Rom. 1 : 20. "even his eternal power and Godhead."
Col. 2 : 9. In him [the Son] dwelleth the fulness of the Godhead bodily."

We have seen, however, that there is a Godhead constituted of three distinct Persons ; and that these three are *one* God. The passages which indirectly indicate this individuality of the three and their union are numerous.

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The doctrine of the Trinity is called a *Mystery*. The import of this term, its application to the Trinity, and a reconciliation of the idea of the Trinity with reason are given in Division IX.

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As some will probably have a thought arise in their minds, as we have had in our own mind, in respect to the form of the embodiment of the Godhead, and its stature, in comparison with other things in the immensity and great variety of the Universe, this Work would be incomplete unless we inserted some reasonable hypothesis on this point. Artists have endeavored to make ideal pictures not only of God the Father, of God the Son, and of God the Holy Ghost, separately, but of all conjoined as one "Triune God." [Here describe the most noteworthy of these attempts.] We have likewise had very many of the Son, in his human nature, as Christ. His personal appearance, as a man, is not described in the Bible ; but we find what purport to be descriptions of his person, more or less in detail, even unto the color of his hair and eyes, in the New Testament *apochrypha* and in what is called "profane history." [Here give the most noteworthy of these.] Throughout the Old Testament we have a very large number of "types" or foreshadowings of the coming of the "Messiah" or "Shiloh," and of events afterwards recorded in the New Testament. All Bible revelation proceeds upon a theory of what is technically termed "Typology." Several pains-taking theological writers have produced extended Commentaries and Treatises on that subject; so that we are made to understand, through these helps, many things in Bible lore which might, otherwise, have remained obscure. [Mention some of these Works.] As the Son became man, we may reasonably infer that the form and lineaments of man were such that it was not beneath the dignity of the Divine Person to assume them. This fact, alone, would justify us in thinking of God the Son as, in form, the Archetype of angels and of men. The Bible distinctly announces that "God created man in his own image"; (Gen. 1: 27;) and we have also seen, from frequent allusions in the "Anthropomorphic and Anthropopathic Representations of God," (*ante* p. 216) that he has permitted the Inspired Writers to refer to him as possessing both the form and the passions of which we see resemblances in man.

Phil. 2: 6. Paul thus speaks of Christ: "Who being in the form of God, thought it not robbery to be equal with God: 7. But made himself of no reputation, and took upon himself the form of a servant, and was made in the likeness of men 8. And being found in fashion as a man, he humbled himself, and became obedient unto death, even the death of the Cross."

Type presupposes Archetype. Several years ago we heard a sermon preached by an "orthodox divine," a professor in a theological seminary, in which he made use of this expression, "Upon the throne of God there sits a Man." We have forgotten the text; but we remember that the idea he sought to enforce was that we could address and see, in our imagination, a "Mediator" with the Father who was so far in sympathy with us as not to consider it contrary to the plan of the Divine Government to allow us to look up to him as one who had Deified our form; or, rather, one who had given to us in our creation, his own form. It was probably this thought which seemed to inspire Shakespeare when he makes Hamlet say:—

—"What a piece of work is man! How noble in reason! how infinite in faculties! in form, and moving, how express and admirable! in action, how like an angel! in apprehension, how like a god! the beauty of the world! the paragon of animals"! (Act II., Scene 2.)

We think we are justified in believing that when the Son was "begotten" he was made by the Father to take the form which he afterwards gave to created man; and this view is strengthened by what we find in Scripture concerning Angels. (See *post* p. 240.) [See, also, Rev. 21: 17. John saw, in a vision, the angel measuring the walls of the New Jerusalem, so many cubits, "*according* to the measure of a man, that is, of the Angel."] It is also strengthened by our own views of the "general fitness of things." Our reasoning powers must, of necessity, seek after analogies, and we cannot think of God at all, unless we think of him as possessing body, parts and attributes resembling, to some extent, those possessed by man. (See *ante* p. 82.) For these reasons, we are not inclined to accept the teachings of those theologians who intimate that we must not think of God as having either body or parts. [Quote from some of them.] It is more agreeable to our feelings and aspirations, and more in accordance with our interpretation of Scripture, to think of him as a real person upon whose face we hope to look, when "we shall see him as he is." (1 John 3: 2.) His stature may be six feet, or it may reach from immensity to immensity; yet, we have no justification for supposing that it is any more nor less than that of the best model of a man. Paul speaks of the "knowledge of the Son of God, unto a perfect man, unto the measure of the stature of the fulness of Christ," (Eph. 4: 13;) as if he thought of him, after his ascension, in the form and stature of a man. We have seen how Pascal reduces a universe into an atom; (*ante* p. 142;) and we know, from Scripture, that, "one day is with the Lord as a thousand years, and a thousand years as one day;" (2 Pet. 3: 8;) and that the Lord hath said, "For as the heavens are higher than the earth, so are my ways higher than your ways, and my thoughts than your thoughts." (Is. 55 : 9.) These texts, and several more of like import, prove that God is Omniscient, Omnipotent, and Omnipresent ; but these characteristics are not inconsistent with the Son being embodied in form and stature like a man. Among all entities he is and of right ought to be the most distinct and definite. This embodiment would not be opposed to the theory of universal spirit penetrating the cells of mind as propounded by us in conjunction with the Atomic Theory ; (*ante* p. 182 ;) and as Paul seems to suppose when he says " be renewed in the spirit of your mind ;" (Eph. 4 : 23 ;) and, again, when he says, " What, know ye not that your body is the temple of the Holy Ghost, which is in you, which ye have of God ?" (1 Cor. 6 : 19 ;) for, then, all thought and motion, everywhere, would always be instantaneously " telegraphed" (so to speak) to this central figure ; and, thereby, the idea of his Omniscience and Omnipresence, would be verified. " Behold the heaven and heaven of heavens cannot contain thee ;" (1 Kings 8 : 27 ;) " Am I a God at hand, saith the Lord, and not a God afar off ? Can any hide himself in secret places that I shall not see him ? saith the Lord. Do not I fill heaven and earth ? saith the Lord." (Jer. 23 : 23, 24.) His Spirit is radiated from the Godhead, into every part of the surrounding Universe, somewhat as light is emitted by the Sun, through space, in our planetary system. This brings both God and the " orb of day," in their benign influences, close to us ; and, yet, the nuclei from which these influences proceed are as much localized as if Spirit did not thus proceed from the one and light from the other. His plan of salvation is so broad and intelligible that it seems consistent with it that we should have such a central figure around which we may readily rally our thoughts and concentrate our loftiest aspirations. This is likewise most consonant with his goodness and mercy. The Roman Catholic personifies, in sculpture and pictures, the Savior upon the cross ; and this they do from a necessity they feel that they must have something tangible on which to fix their gaze as they worship the Everliving God. There are others so constituted that they think they can do this by looking towards a Deity who is merely personified as a rhetorical figure. The "heathan" personifies all this in sun, moon or stars, in "mythological gods," in animals, or in idols constructed of wood, pottery, stone or other gross material, selected or fashioned according to his conception of polytheistic powers. Amidst the diversity of these conceptions, between the extremes of orthodoxy and idolatry, there is probably a *mean*, which we think is to be found in such a personification and imaging as this:—[Here give what we suppose to be best taught, from reason and Scripture, as the proper conception in respect to the form and manifestations of Father, Son and Holy Ghost, in the Godhead. See the Conclusion of this Division, entitled, "The Existences in the Divine Government Grouped and Further Considered."]

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The Godhead combines the Omniscience of the Father, the Omnipotence of the Son, the Omnipresence of the Holy Ghost; and, thus constituted, its chief characteristic is IMMUTABILITY.

5. HEAVEN.

Heaven is a place created of substance. This substance was not of preëxisting mind or spirit. It was something which did not exist until created. We are not only taught in Scripture, but it is reasonable to suppose, without any direct revelation, that God created Heaven before he created matter, any modification of matter, the accompaniments of matter, or any rational or irrational intelligences, whatever.

Gen. 1: 1. "In the beginning God created the heaven and the earth." (See *Commentary on Genesis*, Murphy, p. 28.)

Ps. 93: 2. "Thy throne is established of old."

Ps. 103: 19. "The Lord has prepared his throne in the heaven; and his kingdom ruleth over all."

As the Great First Cause, with infinite wisdom and power, he would, naturally, (so to speak,) desire a dwelling place, and to produce a beginning of time as distinguished from its antithesis, which is eternity. (*Ante* p. 93.) There could be no such thing as Time, nor even Space, without the presence of something *tangible*. God could say I AM; and he could constitute the Godhead: but he could not, either before or after the constitution of the Godhead, say I am *here*, without the presence of some created substance. God, in the Godhead, could say, I *will do* a thing; but, with the exception of constituting the Godhead, he could not say I *have done* a thing, until he created something. So he created, that is, he spoke into existence, something not in existence before, namely, the substance of which Heaven is made. This substance was probably not composed of any of the "elements" of what we call Matter. Science has, thus far, discovered that these elements are about sixty-three in number. An element is something which, in the language of Chemistry, is said to be that which man cannot resolve into any simpler form ; and combinations of these simple constituents form all the material bodies now known to man. Science also declares that these elements are suspended and move in a universal substance called ether, which is also matter. (*Ante* p. 55.) Heaven was made of substance previously created. (Col. 1 : 16 to 19 ; *ante* p. 208.)

In the universe of matter it is at least probable, if not necessary, that there should be something fixed ; an immovable centre. There is a law of gravitation not only for the Earth but for all the bodies which occupy space. This law seems to require one grand centre around which every thing in the material universe revolves, towards which it is attracted by this law, and from which it is "kept aloof" only by the will of a Superior Intelligence, which set the objects of this law in motion, and which subjects them to that will.

Scientific investigation of the winds has led to a theory that there are two currents,—one starting from each pole ; that each starts for the opposite pole as an upper current ; that they cross each other in each of the calm belts of Cancer, of the Equator and of Capricorn in such a way that between these belts the upper becomes the lower current, and *vice versa ;* that each reaches the opposite pole as an under current ; that they there whirl, as if in a helix, and each starts again, as before, an upper current ; that the deviations from these general courses are only exceptional, owing to the configuration of the earth's surface, its diurnal motion from west to east, and other causes stated ; and that the movements of these currents are *started* from the poles by some impelling power which cannot be satisfactorily accounted for by any physical law known. (See *The Physical Geography of the Sea*, by M. E. Maury, LL.D., Lieut. U. S. Navy. New York : Harper & Brothers. 1855. pp. 70, 104.)

Farther on the same writer adds :—

> "And as for the general system of atmospherical circulations which I have been so long endeavoring to describe, the Bible tells it all in a single sentence :—(Ecc. 1 : 7.) 'The wind goeth towards the south, and turneth

about unto the north: it whirleth about continually, and the wind returneth again according to his circuits.' " (*Ibid*, p. 75.)

On the same theory, we may infer an initial impulse to start and govern the movements of the material universe, and find, in the Totality of all Things, [This *pleonasm* seems necessary to fully express our meaning,] a common centre and a common Motor. This centre must be fixed for the Universe, the same as a point of gravitation is fixed at the centre of the Earth ; the same as the Sun is fixed as the centre of gravitation for the Solar System ; and the same as other suns of other systems are centres of gravitation for them.

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Maury, in the same work, among other portions of Scripture, corroborating science, (which we give in Div. IV., Part I., Sub. 10,) quotes what God says to Job about the Pleiades :—

> " The Bible frequently makes allusions to the laws of Nature, their operation and effects. But such allusions are often so wrapped in the folds of the peculiar and graceful drapery with which its language is occasionally clothed, that the meaning, though peeping out from its thin covering all the while, yet lies in some sense concealed, until the lights and revelations of science are thrown upon it; then it bursts out and strikes us with the more force and beauty. As our knowledge of Nature and her laws has increased, so has our understanding of many passages in the Bible been improved. . . . . . . The Bible called the earth 'the round world' : [This exact expression is not in the Bible ; but the same idea is expressed in Is. 40: 22; "circle of the earth"; and in Job 26: 7 ; "hangeth the Earh upon nothing,"] yet, for ages, it was the most damnable heresy for Christian men to say the world is round ; and, finally, sailors circumnavigated the globe, proved the Bible to be right, and saved Christian men of science from the stake.
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> . . . . . . 'canst thou tell [bind] the sweet influences of the Pleiades ?' (Job 38: 31.) Astronomers of the present day, if they have not answered this question, have thrown so much light upon it as to show that, if ever it be answered by man, he must consult the science of astronomy. It has been recently all but proved, that the earth and sun with their splendid retinue of comets, satellites, and planets, are all in motion around some point or centre of attraction inconceivably remote, and that that point is in the direction of the star Alcyon, one of the Pleiades. Who but the astronomer, then, could tell their 'sweet influences ?' " (*Ibid*, p. 74.)

His quotation from Job 38 : 31, has " tell" for *bind ;* [See remarks, in brackets, incorporated in quotation from Chalmers, *post*, p. 233,] the correction of which error need not alter the sense of what he says concerning the significance of the expression "the sweet influences of the Pleiades"; which refers to a cluster of seven stars in the neck of Taurus, or the Bull, one of the twelve signs of the Zodiac. The Sun enters Taurus about the middle of April; and the appearance of the Pleiades, therefore, marks the return of spring. (See *Bible Dic.*, p. 346. N. Y. Am. Tract Society. 1859.)

Job 9: 9. "Which [God] maketh Arcturus, Orion, and Pleiades."

Amos 5: 8. "*Seek him* that maketh the seven stars and Orion . . . The Lord is his name."

Burritt thus speaks of this cluster :—

"The Pleiades are so called from the Greek word [Greek word] *pleein*, to *sail*; because, at this season of the year, they were considered 'the star of the ocean' to the benighted mariner . . . . . Virgil who flourished 1200 years before the invention of the magnetic needle [speaks of the Pleiades as among those which] were relied upon, in the first ages of nautical enterprise, to guide the rude bark over the seas . . . . . . *Alcyone*, of the 3d magnitude, being the brightest star in this cluster, is sometimes called the *light of the Pleiades*. The other five [one being invisible to the naked eye] are principally of the 4th and 5th magnitudes. The Pleiades, or, as they are more familiarly termed, the *seven stars*, come to the meridian 10 minutes before 9 o'clock, on the evening of the 1st of January, and may serve in place of the sun, to indicate the time, and as a guide to the surrounding stars." (*Burritt's Geography of the Heavens.* N. Y. Mason Bros. 1856. p. 39.)

Although we do not find ourselves justified in assuming, with Maury, that the centre of the universe will yet be discovered by astronomers, we give place to these intimations, because they show that the question as to the existence of such a centre has occupied the attention of scientific investigators. We infer its existence from analogy, supported by Scripture; and whether it be found in the Pleiades, or elsewhere, or be not found at all, it will not impair the assumed fact that it exists *somewhere*.

"Taurus is now the *second sign* and *third constellation* of the Zodiac; but anterior to the time of Abraham [when Job was written,] or more than 4000 years ago, the vernal equinox took place, and the year opened when the sun was in Taurus; and the Bull, for the space of 2000 years, was the prince and leader of the celestial host. The Ram succeeded next, and now the Fishes lead the year." (*Ibid*, p. 38.)

Dr. Thomas Chalmers, in his Discourse on "Modern Astronomy," grapples boldly with this idea :—

"Why resist any longer the grand and interesting conclusion? Each of these [fixed] stars may be the token of a system as vast and as splendid as the one which we inhabit. Worlds roll in these distant regions; and these worlds must be the mansions of life and of intelligence. In yon gilded canopy of heaven, we see the broad aspect of the universe, where each shining point presents us with a sun. and each sun with a system of worlds; where the Divinity reigns in all the grandeur of his attributes; where he peoples immensity with his wonders, and travels in the greatness of his strength through the dominions of one vast and unlimited monarchy.

"The contemplation has no limits. If we ask the number of suns and of systems, the unassisted eye of man can take in a thousand, and the best telescope which the genius of man has constructed can take in eighty millions. But why subject the dominions of the universe to the eye of man, or to the powers of his genius? Fancy may take its flight far beyond the ken of eye or of telescope. It may expatiate in the outer regions of all that is visible; and shall we have the boldness to say that there is nothing there? that the wonders of the Almighty are at an end, because we can no longer trace his footsteps? that his omnipotence is exhausted, because human art can no longer follow him? that the creative energy of God has sunk into repose, because the imagination is enfeebled by the magnitude of its efforts, and can keep no longer on the wing through those mighty tracts, which shoot far beyond what eye hath seen, or the heart of man hath conceived, which sweep endlessly along, and merge into an awful and mysterious infinity?

"Before bringing to a close this rapid and imperfect sketch of our modern astronomy, it may be right to advert to two points of interesting speculation, both of which serve to magnify our conceptions of the universe, and of course to give us a more affecting sense of the comparative insignificance of this our world. The first is suggested by the consideration, that if a body be struck in the direction of its centre, it obtains, from this course, a progressive motion, but without any movement of revolution being at the same time impressed upon it. It simply goes forward, but does not turn round upon itself. But again, shou'd the stroke not be in the direction of the centre, should the line which joins the point of percussion to the centre make an angle with that line in which the impulse was communicated, then the body is both made to go forward in space, and also to wheel upon its axis. In this way each of our planets may have had their compound motion communicated to it by one single impulse; and, on the other hand, if ever the rotary motion be communicated by one blow, then the progressive motion must go along with it. In order to have the first motion without the second, there must be a twofold force applied to the body in opposite directions. It must be set agoing in the same way as a spinning-top, so as to revolve about an axis, and to keep unchanged its situation in space. The planets have both motions; and therefore may have received them by one and the same impulse. The sun, we are certain, has one of these motions. He has a movement of revolution. If spun round his axis by two opposite forces, one on each side of him, he may have this movement, and retain an inflexible position in space. But if this movement was given him by one stroke, he must have a progressive motion, along with a whirling motion; or, in other words, he is moving forward; he is describing a tract in space; and, in so doing, he carries all his planets and all their secondaries along with him.

"But at this stage of the argument, the matter only remains a conjectural point of speculation. The sun may have had his rotation impressed upon him by a spinning impulse; or, without recurring to secondary causes at all, this movement may be coeval with his being, and he may have derived both the one and the other from an immediate fiat of the Creator. But there is an actually observed phenomenon of the heavens, which advances the conjecture into a probability. In the course of ages, the stars in one quarter of the celestial sphere are apparently receding from each other; and, in the opposite quarter, they are apparently drawing nearer to each other. If the sun be approaching the former quarter, and receding from the latter, this phenomenon admits of an easy explanation, and we are furnished with a magnificent step in the Creator's workmanship. In the same manner as the planets, with their satellites, revolve round the sun, may the sun, with all his tributaries, be moving, in common with other stars, around some distant centre, from which there emanates an influence to bind [He seems here to have in his mind the passage of Scripture quoted by Maury from Job 38: 31; "canst thou bind the sweet influences of the Pleiades?"] and to subordinate them all. They may be kept from approaching each other by a centrifugal force, without which the laws of attraction might consolidate into one stupendous mass all the distinct globes of which the universe is composed. Our sun may, therefore, be only one member of a higher family, taking his part along with millions of others, in some loftier system of mechanism, by which they are all subjected to one law, and to one arrangement, describing the sweep of such an orbit in space, and completing the mighty revolution in such a period of time, as to reduce our planetary seasons, and our planetary movements, to a very humble fractionary rank in the scale of a higher astronomy. There is room for all this in immensity; and there is even argument for all this in the records of actual observation; and from the whole of this speculation do we gather a new emphasis to the lesson, how minute is the place, and how secondary is the importance of our world, amid the glories of such a surrounding magnificence." (*Astronomical Discourses.* N. Y. Am. Tract Society. No date. p. 36 to p. 41.)

These views are held by many other great minds. :—

(See, among other Authors, *Our Inheritance in the Great Pyramid,* by Piazzi Smith, pp. .)

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The Bible speaks of Heaven as the Abode of God.

1 Kings 8: 30. Solomon, in his prayer at the dedication of the temple, calls on God several times to hear him "in heaven thy dwelling place."

Eph. 15: 13; Deut. 26: 15; Ps. 68: 5; Jer. 25: 30; Zech. 2: 13; "holy habitation." (See *Cruden's Concordance,* tit. HABITATION.)

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It is a definite place, as much so as a City with dwellings.

John 14: 2. Christ says "In my Father's house are many mansions."

Gal. 4: 26., Speaks of it as the "Jerusalem which is above."

Heb. 12: 21., Also, as the "heavenly Jerusalem."

Heb. 11: 14, 16. Paul also speaks of it as a "country" and a "city."

It has one part more glorious than another.

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When God the Son became man and dwelt here on the Earth, he promised to prepare a special place in Heaven for the spirits of those who died believing on him.

John 14: 2, 3. "In my Father's house are many mansions; if *it were* not *so*, I would have told you. I go to prepare a place for you. 3. And if I go and prepare a place for you, I will come again, and receive you unto myself; that where I am, there ye may be also."

Ps. 115: 16. "The heaven, even the heavens, are the Lord's."

Deut. 10: 14. "Behold, the heaven and the heaven of heavens is the Lord's thy God, the earth also, and all that therein is." (See, also, 1 Kings 8: 27.)

Amos 9: 6. "It is he that buildeth his stories in the heavens."

2 Cor. 12: 1. Paul writes: "I will come to visions and revelations of the Lord. 2. I knew a man in Christ, about fourteen years ago, (whether in the body, I cannot tell; or whether out of the body, I cannot tell: God knoweth;) such an one caught up to the third heaven. 3. And I knew such a man, (whether in the body, or out of the body, I cannot tell: God knoweth;) 4. How that he was caught up into paradise, and heard unspeakable words, which it is not lawful for a man to utter."

Is. 57: 15. "I dwell in the high and holy *place*."

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This promise has been fulfilled. Christ left it as an inheritance.

1 Peter 1: 4. "To an inheritance incorruptable, and undefiled, and that fadeth not away, reserved in heaven for you."

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This special place is called, in Revelations, the "New Jerusalem." John saw it in a vision. It is evidently typical, and has not yet been interpreted.

Rev. 21: 2, also 10 to 26. "And I John saw the holy city, New Jerusalem, coming down from God out of heaven, prepared as a bride adorned for her husband." 10. "And he carried me away in the spirit to a great and high mountain, and shewed me that great city, the holy Jerusalem, descending out of heaven from God. 11. Having the glory of God: and her light *was* like unto a stone most precious, even like a jasper-stone, clear as crystal; 12. And had a wall great and high, *and* had twelve gates, and at the gates twelve angels, and names written thereon, which are *the names* of the twelve tribes of the children of Israel. 13. On the east, three gates; on the north, three gates; on the south, three gates; and on the west, three gates. 14. And the wall of the city had twelve foundations, and in them the names of the twelve apostles of the Lamb. 15. And he that talked with me, had a golden reed to measure the city, and the gates thereof, and the wall thereof. 16. And the city lieth foursquare, and the length is as large as the breadth: and he measured the city with the reed, twelve thousand furlongs. The length, and the breadth, and the height of it are equal. [A cube of about 1500 miles diameter, if English furlongs, and about one twelfth less if Roman. This would give a capacity much less than a hollow sphere like the Moon, whose diameter is 2162 miles. Her surface is 13 times less than that of the Earth, and her bulk 49 times less (*Burritt's Geography of the Heavens*, p. 211.)] 17. And he measured the wall thereof, an hundred *and* forty *and* four cubits, *according to* the measure of a man, that is, of the angel. [About 216 feet English measurement.] 18. And the building of the wall of it was *of* jasper: and the city *was* pure gold, like unto clear glass. 19. And the foundations of the wall of the city *were* garnished with all manner of precious stones. The first foundation *was* jasper; the second, sapphire; the third, a chalcedony; the fourth. an emerald; 20. The fifth, sardonyx; the sixth, sardius; the seventh, chrysolite; the eighth, beryl; the ninth, a topaz; the tenth, a chrysoprasus; the eleventh, a jacinth; the twelfth, an amethyst. 21. And the twelve gates *were* twelve pearls; every several gate was of one pearl; and the street of the city *was* pure gold, as it were transparent glass. 22. And I saw no temple therein; for the Lord God Almighty and the Lamb are the temple of it. 23. And the city had no need of the sun, neither of the moon, to shine in it: for the glory of God did lighten it, and the Lamb *is* the light thereof. 24. And the nations of them which are saved shall walk in the light of it: and the kings of the earth do bring their glory and honour into it. 25. And the gates of it shall not be shut at all by day: for there shall be no night there. 26. And they shall bring the glory and honour of the nations into it." (See *Horne's Introduction*, Vol. II., p. 381.)

Paul refers to those who "died in the faith," before "the promises" made by Christ, as entitled to enter into the city thus specially prepared in Heaven, and to dwell there with the saints who received the promises.

Heb. 11: 13 to 16. "These all died in faith, not having received the promises, but having seen them afar off, and were persuaded of *them*, and embraced *them*, and confessed that they were strangers and pilgrims on the earth. 14. For they that say such things declare plainly that they seek a country. 15. And truly, if they had been mindful of that *country* from whence they came out, they might have had opportunity to have returned. 16. But now they desire a better *country*, that is, a heavenly: wherefore God is not ashamed to be called their God: for he hath prepared for them a city."

Matt. 8: 11. "And I say unto you, that many shall come from the east and west, and shall sit down with Abraham, and Isaac, and Jacob, in the kingdom of heaven."

Luke 13: 29. "And they shall come from the east and *from* the west and from the north, and *from* the south, and shall sit down in the kingdom of God."

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It is a place of rest.

Heb. 4: 3, 5.—"enter into my rest." Verse 9. "There remaineth a rest for the people of God." Verse 11. "Let us labor therefore to enter into that rest."

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It is a place of security.

Matt. 6: 19 to 21. "Lay not up for yourselves treasures upon earth, where moth and rust doth corrupt and where thieves break through and steal. 20. But lay up for yourselves treasures in heaven, where neither moth nor rust doth corrupt, and where thieves do not break through nor steal: 21. For where your treasure is, there will your heart be also."

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It is a place where there is no hunger, thirst, sorrow, pain, sickness, nor death; no darkness; no irksome labor; no vain groping in ignorance concerning things eternal; no corruption; no change nor decay of substance; no molecular motion, to produce heat, nor any such attraction or "repulsion" [See *ante*, p. 178,] of elementary atoms or other manifestation of forces such as we behold here on the Earth in the phenomena of nature; but it is a place whose substance is fixed and immovable; beautiful and full of glory.

Ps. 16: 11. "Thou wilt show me the path of life: in thy presence *is* fulness of joy; at thy right hand *there are* pleasures for evermore."

Matt. 13: 43. "Then shall the righteous shine forth as the sun in the kingdom of their Father."

Matt. 6. 20.—"heaven, where neither moth nor rust doth corrupt."

Heb. 4: 9. "There remaineth therefore a rest to the people of God."

1 Pet. 1: 4.—"an inheritance incorruptible, and undefiled, and that fadeth not away, reserved in heaven for you."

Rev. 3: 11. "Him that overcometh [i. e. he who dies in the faith,] . . . . shall go no more out."

2 Cor. 4: 17. "For our light affliction, which is but for a moment, worketh for us a far more exceeding *and* eternal weight of glory."

1 Pet. 1: 9. "Receiving the end of your faith, even the salvation of *your* souls."

Rev. 14: 5. "And in their mouth was found no guile, for they are without fault before the throne of God."

Rev. 22: 5. "And there shall be no night there; and they need no candle, neither light of the sun; for the Lord God giveth them light."

Rev. 22: 3. "And they shall see his face."

1 Cor. 13: 12. "For now we see through a glass, darkly; but then face to face: now know I in part; but then shall I know even as I am known.'

"John 12: 26. "If any man serve me, let him follow me; and where I am, there shall also my servant be; if any man serve me, him will *my* father honor."

Rev. 21: 4. "And God shall wipe away all tears from their eyes; and there shall be no more death, neither sorrow, nor crying, neither shall there be any more pain: for the former things are passed away."

Is. 33 : 24. "And the inhabitant shall not say, I am sick."

Rev. 7 : 16. "They shall hunger no more, neither thirst any more; neither shall the sun light on them, nor any heat."

(See, also, *ante*, p 232; "holy habitation;" several quotations.)

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There are other passages of like import; which make it clear that Heaven is not only a place composed of substance, but that this substance is fixed and immovable, in the midst of the Universe.

We are told in the Bible that God is a King, who has established a Throne in Heaven, on which he sits; he governs Heaven and all things in the Universe which surround it, as a Kingdom; and the passages which refer to this Throne and to this Kingdom, corroborate our view of the immutability of heavenly substance.

Ps. 145 : 13. "Thy kingdom is an everlasting kingdom and thy dominion endureth through all generations." (See, also, Dan. 4 : 3.)

Dan. 7 : 27. "And the kingdom and dominion, and the greatness of the kingdom, under the whole heaven, shall be given to the people of the saints of the Most High, whose kingdom *is* an everlasting kingdom, and all dominions shall serve and obey him."

Heb. 10 : 34.—"ye have in heaven a better and more enduring substance."

Ps. 11 : 4 "The Lord's throne is in Heaven." He sits upon the throne. (See Rev. 7 : 10.)

Ps. 103 : 19. "The Lord has prepared his throne in the heavens; and his kingdom ruleth over all."

Ps. 45 : 6. "Thy throne O God is for ever and ever; the sceptre of thy kingdom is a right sceptre."

Lam. 5 : 19. "Thou O Lord remainest forever; thy throne from generation to generation."

Is. 14 : 12 to 15. "How art thou fallen from Heaven, O Lucifer, son of the morning! *How* art thou cut down to the ground, which did weaken the nations! 13. For thou hast said in thine heart, I will ascend into heaven, I will exalt my throne above the stars of God: I will sit also upon the mount of the congregation, in the sides of the north: 14. I will ascend above the heights of the clouds: I will be like the Most High. 15. Yet thou shalt be brought down to hell, to the sides of the pit."

Jer. 17 : 12. "A glorious high throne from the beginning *is* the place of our sanctuary."

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This throne is probably so located that all worlds looking towards it would call it "north;" and, while so looking, from whatever radius, they would be in the "south." Any direction to the right or left of the particular radiant would, to the beholder, be towards the "east" or "west." Thus, while all worlds would have but one and the same north, each would have a different south, east and west, except when occupying space on the same radius from the common centre with some other world or worlds.

Isa. 14: 12 to 15. Just quoted. It is there referred to as "in the sides of the north."

Job 9: 8, 9.—"which alone spreadeth out the heavens, and treadeth upon the waves of the sea; which maketh Arcturus, Orion, and Pleiades, [in the north,] and the chambers of the south," [all other worlds.]

Job 26: 7. "He stretched out the north [heaven] over the empty place, [the material universe being a subsequent creation,] and hangeth the earth upon nothing." [That is, he gave it orbital motion.]

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Dr. A. A. Hodge gives us this caution.

"In meditating upon what is revealed of the conditions of heavenly existence two errors are to be avoided: 1st, the extreme of regarding the mode of existence experienced by the saints in heaven as too nearly analagous to that of our earthly life; 2d. the opposite extreme of regarding the conditions of the heavenly life as too widely distinguished from that of our present experience. The evil effect of the first extreme will, of course, be to degrade by unworthy associations our conceptions of heaven; while the evil effect of the opposite extreme will be in great measure to destroy the moral power which a hope of heaven should naturally exert over our hearts and lives, by rendering our conceptions of it vague, and our sympathy with its characteristics consequently distant and feeble. To avoid both of these extremes, we should fix the limits within which our conceptions of the future existence of the saints must range, by distinguishing between these elements of man's nature, and of his relations to God and other men, which are essential and unchangeable, and those elements which must be changed in order to render his nature in his relations perfect. (*Outlines of Theology*, p. 461.)

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We shall hereafter speak of Hell as the opposite of Heaven; more particulary in Div. VII., Sub. 10. (See, also, *post*, p. 258 *et seq.*)

The substance of Heaven has for its chief characteristic IMMOBILITY.

6. Angels and their Kind.

Rational created intelligences existed in Heaven before the time given in Genesis for man's appearance on the Earth. They are called Angels, which means Messengers. They were superhuman.

Gen. 28: 12.—"behold the Angels of God ascending and descending."

Matt. 22: 30.—"as the Angels of God in heaven." (Mark 12: 25.)

Luke 12: 8, 9. "Whosoever shall confess me [Jesus] before men, him shall the Son of man also confess before the Angels of God: 9. But he that denieth me before men shall be denied before the Angels of God."

Luke 15: 10. "Likewise, I say unto you, there is joy in the presence of the Angels of God over one sinner that repenteth."

Heb. 1: 4. The Son is spoken of as, "Being made so much better than the Angels. . . . . . . 5. For unto which of the Angels said he at any time, Thou art my Son. . . . . . . 6. And again, when he bringeth in the first begotten into the world, he saith, And let all the Angels of God worship him."

Heb. 1: 7.—"who maketh his Angels spirits."

Ps. 8: 5.—"thou hast made him [man] a little lower than the Angels." (Heb. 2: 7.)

Heb. 2: 5. "For unto the Angels hath he not put in subjection the world to come, whereof we speak?"

2 Pet. 2: 11. "Whereas, Angels which are greater, in power and might."

Zech. 12: 8.—"David *shall be* . . . . as the Angel of the Lord before them."

Acts 6: 15. "And all that sat in the council, looking steadfastly on him, [Stephen,] saw his face as it had been the face of an Angel."

2 Sam. 19: 27. "And he hath slandered thy servant unto my lord the king; but my lord the king *is* as an Angel of God: do therefore *what is* good in thine eyes."

Col. 1: 16. "For by him were all things created, that are in heaven and that are in earth, visible and invisible, whether *they be* thrones, or dominions, or principalities or powers; all things were created by him and for him."

Rev. 18: 1. "And after these things I saw another Angel come down from heaven, having great power; and the earth was lightened with his glory."

They were created bodies, composed of substance, and formed, except as to "Cherubim" and "Seraphim," in the image of God the Son, and so fashioned that they could be identified by differences of appearance and known by different names, among all the intelligences of heaven. All this is clear, not only from analogy, in the creation of man after the "image of God," only "a little lower than the Angels," but from the passages of Scripture which refer to their offices and movements; particularly from such passages as we shall next quote. They not only appear on the earth in general resemblance to the form of men; but they have substantially the same form in heaven. Their bodies while here are sometimes made to *appear* as if they possessed the physical characteristics, more or less, of man's body. In these instances it may be that "man is only cognizant of appearances," (*ante*, p. 43); but it is more probable that these Angels are, for the time being, actually enveloped in some material substance. It need not necessarily be flesh nor any other tissues like those of man's frame. Dr. A. A. Hodge thinks that "what was apparent to the senses were doubtless miraculously constituted bodies assumed for the occasion for the purpose of holding intercourse with man through his bodily senses, and then laid aside." (*Outlines of Theology*, p. 199.) Their bodies, and their "clothing," in the heavenly condition, probably consist of substances peculiar to heaven, and entirely unlike any of the elements of matter, and even unlike the substance we call ether. There is reason to believe that the Omnipotent would create the several substances of his abode, Heaven, and of its inhabitants, of something which would not be subject to change through the agency of physical forces, but with qualities superior to any thing outside of that place; especially if, as we suppose, Heaven is the centre of the Universe.

Gen. 19: 1. "And there came two Angels to Sodom at even; and Lot sat in the gate of Sodom: and Lot seeing *them* rose up to meet them; and he bowed himself with his face toward the ground; 2. And he said, Behold now, my lords, turn in, I pray you, into your servant's house, and tarry all night, and wash your feet, and ye shall rise up early and go on your ways. And they said, Nay; but we will abide in the street all night. 3. And he pressed upon them greatly; and they turned in unto him, and entered into his house; and he made them a feast, and did bake unleavened bread, and they did eat." (Read Gen. 18, the whole Chapter, and Gen. 19: 1 to 29.)

Ezek. 9: 2. "And, behold, six men came from the way of the higher gate, which lieth toward the north, and every man a slaughter weapon in his hand; and one man among them *was* clothed with linen, with a writer's inkhorn by his side; and they went in and stood beside the brazen altar. 3. And the glory of the God of Israel was gone up from the Cherub, whereupon he was, to the threshold of the house. And he called to the man clothed with linen which *had* the writer's inkhorn by his side; [then follows the command to the destroying Angels to inflict sore chastisement on Jerusalem.] 11. And, behold, the man clothed with linen, which *had* the inkhorn by his side, reported the matter, saying, I have done as thou hast commanded me."

Ezek. 10: 2. "And he spake unto the man clothed with linen, and said, Go in between the wheels, *even* under the Cherub, and fill thine hand with coals of fire from between the Cherubim, and scatter *them* over the city. And he went in in my sight. . . . . . 6. And it came to pass, *that* when he had [so] commanded the man clothed with linen, ... 7.—*one* Cherub stretched forth his hand from between the Cherubim unto the fire that *was* between the Cherubim, and took *thereof*, and put *it* into the hands of *him that was* clothed with linen; who took *it*, and went out."

Ezek. 40: 3. Ezekiel saw the temple in a vision. "And he [God] brought me thither, and, behold, *there was* a man, whose appearance *was* like the appearance of brass, with a line of flax in his hand, and a measuring reed; and he stood in the gate."

Dan. 8: 15. Daniel saw in a vision, by the river Ulai, one that "stood before me as the appearance of a man. 16. And I heard a man's voice between *the banks of* Ulai, which called, and said, Gabriel, make this *man* to understand the vision . . . . . . 18. Now as he [Gabriel] was speaking with me, I was in a deep sleep on my face toward the ground: but he touched me and set me upright." [The Angel then interpreted Daniel's vision of the ram and he-goat.]

Dan. 10: 4. Again, by the river Hiddekel. 5. "Then I lifted up mine eyes, and looked, and behold a certain man clothed in linen, whose loins *were* girded with fine gold of uphaz; 6. His body also *was* like the beryl, and his face as the appearance of lightning, and his eyes as lamps of fire, and his arms and his feet like in color to polished brass, and the voice of his words like the voice of a multitude. 9. Yet heard I the voice of his words; and when I heard the voice of his words, then was I in a deep sleep on my face, and my face toward the ground. 10. And behold a hand touched me, which set me upon my knees and *upon* the palms of my hands. . . . . . 16. And behold *one* like the similitude of the sons of men touched my lips. . . . . . 18. Then there came again and touched me *one* like the appearance of a man, and he strengthened me."

Dan. 12: 5. "Then I Daniel looked, and, behold, there stood other two, the one on this side of the bank of the river, and the other on that side of the bank of the river. 6. And *one* said to the man clothed in linen, which *was* upon the waters of the river, How long *shall it be* to the end of these wonders? 7. And I heard the man clothed in linen, which *was* upon the waters of the river, when he held up his right hand and his left hand unto heaven, and sware by him that liveth for ever, that *it shall be* for a time, times and a half; . . . . . 8. And I heard, but I understood not:"

Zech. 1: 7. At certain times, during the reign of Darius, "came the word of the Lord to Zechariah." 8. "I saw by night, and behold a man riding upon a red horse, and he stood among the myrtle trees that *were* in the bottom; and behind him *were there* red horses, speckled, and white. 9. Then said I, O my lord, what are these? And the Angel that talked with me said unto me, I will show thee what these *be*."

Zech. 2: 1. "I lifted up my eyes again, and looked, and behold a man with a measuring line in his hand. 2. Then said I, Whither goest thou? And he said unto me, ... 3. And, behold, the Angel that talked with me went forth, and another Angel went out to meet him, 4. And said unto him, Run, speak to this young man, saying,"

Matt. 28: 2. At the resurrection of Christ—"behold, there was a great earthquake: for the Angel of the Lord descended from heaven, and came and rolled back the stone from the door, and sat upon it. 3. His countenance was like lightning, and his raiment white as snow."

Luke 1: 11. While Zacharias the priest, father of John the Baptist, was burning incense in the temple, "there appeared unto him an Angel of the Lord standing on the right side of the altar of incense," who foretold the birth and mission of John as the forerunner of Christ.

Acts 10: 30. "And Cornelius said, Four days ago, I was fasting until this hour; and at the ninth hour I prayed in my house, and, behold, a man stood before me in bright clothing."

Rev. 10: 1. "And I saw another mighty Angel come down from heaven, clothed with a cloud; and a rainbow *was* upon his head, and his face *was* as it were the sun, and his feet as pillars of fire: 2. And he had in his hand a little book open: and he set his right foot upon the sea, and *his* left *foot* on the earth, 3. And he cried with a loud voice, as *when* a lion roareth: and when he had cried, seven thunders uttered their voices."

Rev. 15: 6. "And the seven Angels came out of the temple, having the seven plagues, clothed in pure and white linen, and having their breasts girded with golden girdles."

Their numbers were very great.

Dan. 7: 10.—"ten thousand times ten thousand stood before him."
Matt. 26: 53.—"more than twelve legions of Angels."
Ps. 68: 17—"twenty thousand, *even* thousands of Angels,"
Rev. 5: 11.—"And I beheld, and I heard the voice of many Angels round about the throne . . . . . and the number of them was ten thousand times ten thousand, and thousands of thousands."
Gen. 32: 2.—"God's host."
1 Chr. 12: 22.—"*it was* a great host, like the host of God."
Luke 2: 13.—"multitude of the heavenly host."
Heb. 12: 22.—"an innumerable company of Angels."
Job 25: 3.—"Is there any number of his armies?"

Before created intelligences were brought into existence, there was no "Mind" but God's. To possess infinite wisdom and power, and be thus alone, there could be no pleasure; no glory. To suppose such a Being would continue passive, without a Moral Government, in which to rule and to bring into activity his attributes, would be contrary to all analogy and opposed to reason. The Divine Kingdom was established; and its first subjects were Angels, with freedom of choice between obedience and disobedience to the will of their Creator. This gave them a moral responsibility, which was necessary to enable them to show their love. Without this choice, Angels would be like automata; and the creation of such mechanical intelligences would not be worthy of God.

Ps. 103: 19. "The Lord hath prepared his throne in the heavens; and his kingdom ruleth over all."

Matt. 6: 13 "Thine is the kingdom, and the power and the glory, forever."

Jer. 10: 10. "The Lord *is* the true God, he *is* the living God, and an everlasting King."

Dan. 4: 3. "His kingdom *is* an everlasting kingdom"

1 Tim. 6: 15. He "*is* the blessed and only Potentate, the King of kings, and Lord of lords."

God gave them something to do; and the Scriptures show that these employments must have been not only delightful to them, but that they redounded to the glory of God and manifested his wisdom, power and goodness. In *Hitchcock's Analysis*, Book IX., Chapter III., under the title "OFFICES OF GOOD ANGELS," we find the passages of Scripture referring to their employments distributed under these heads:—

1. They Wait on God. (§ 19.)
2. Announce God's Law. (§ 20.)
3. Convey God's Messages. (§ 21.)
4. Protect God's People. (§ 22.)
5. Inflict Divine Penalties. (§ 23.)
6. Ministering Spirits. (§ 24.)
7. Are Guardians of Cities and Nations. (§ 25.)
8. Share in the Counsels of God. (§ 26.)
9. Sound the Apocalyptic Trumpets. (§ 27.)
10. Gather the Elect to Judgment. (§ 28.)

(See *Hitchcock's Analysis*, pp. 200, 201, 202.)

[Here, quote passages of Scripture, under these headings; and show how delightful must have been the fulfilment of these employments.]

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In the exercise of their freedom of choice, some disobeyed.

Jude 6.—"the angels which kept not their first estate,"

2 Pet. 2: 4.—"the angels that sinned,"

Job 4: 18.—"his angels he charged with folly."

Luke 10: 18. "And he [Jesus] said unto them, I beheld Satan, as lightning, fall from heaven."

Is. 14: 12. "How art thou fallen from heaven, O Lucifer."

Rev. 12: 7, 8. "And there was war in heaven: Michael and his Angels fought against the dragon; and the dragon fought, and his angels, and prevailed not; neither was their place found any more in heaven."

Matt. 25: 41.—"the devil and his angels,"

John 8: 44.—"for he [the devil] is a liar."

Acts 13: 10.—"full of all subtlety and all mischief."

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The numbers who disobeyed were many. Probably more than half the heavenly host rebelled. This may be inferred from the "war" referred to in Rev. 12: 7, above quoted.

Mark 5: 9. Christ addressing an "unclean spirit" asked him, "What *is* thy name? And he answered, saying, My name *is* Legion: for we are many." (Luke 8: 30.)

Matt. 8: 30. We are here told that they entered "a herd of many swine."

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From the language of Scripture, it is certain that Angels are of various orders and ranks.

Dan. 10: 13.—"Michael, one of the Chief Princes."

Rev. 12: 7.—"Michael and his Angels."

Jude 9.—"Michael, the Archangel."

1 Thess. 4: 16.—"with the voice of the Archangel, and with the trump of God."

Luke 1: 19. "The Angel answering said unto him, [Zacharias] I am Gabriel, that stand in the presence of God, and am sent to speak unto thee, and to show thee these glad tidings."

Eph. 1: 21. "Far above all principality, and power and might, and dominion, and every name that is named, not only in this world, but also in that which is to come."

2 Thess. 1: 7.—"mighty Angels."

Ps. 103: 20.—"his Angels that excel in strength."

1 Tim. 5: 21.—" the elect angels."

2 Kings 19: 35. "The Angel of the Lord went out, and smote in the camp of the Assyrians, a hundred, fourscore and five thousand."

1 Chron. 21: 16. "David lifted up his eyes, and saw the Angel of the Lord stand between the earth and the heaven, having a drawn sword in his hand, stretched out over Jerusalem."

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It is probable that all were originally created equal; and that the excelling of one over another was in consequence of the greater diligence of some in showing love to their Creator by acts of obedience.

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There were among the created intelligences of heaven, some of a higher order than Angels. They were called Cherubim and Seraphim.

Gen. 3: 24. "He placed at the east of the Garden af Eden, Cherubim, and a flaming sword, which turned every way."

Ex. 37: 1. "And Bezaleel made the Ark, ... 6. And he made the Mercy seat, ... 7. And he made two Cherubim *of* gold, beaten out of one piece made he them, on the two ends of the Mercy seat: 8. One Cherub on the end on this side, and another Cherub on the other end, on that side: out of the Mercy seat made he the Cherubim on the two ends thereof. 9. And the Cherubim spread out *their* wings on high, *and* covered with their wings over the Mercy seat, with their faces one to another; *even* to the Mercy seat-ward were the faces of the Cherubim."

Ex. 31: 1. Bezaleel did this by the command of God. "And the Lord spake unto Moses, saying: 2. See, I have called by name, Bezaleel, the son of Uri, the son of Hur, of the tribe of Judah: 3. And I have filled him with the Spirit of God, in wisdom, and in understanding, and in knowledge, and in all manner of workmanship, 4. To devise cunning works, to work in gold . . . . 5. And in cutting of stones . . . . 6. And I, behold, I have given with him, Aholiab, ... that they may make all that I have commanded thee: 7. The Tabernacle of the Congregation, and the Ark of the Testimony, and the Mercy seat that *is* thereupon, and all the furniture of the Tabernacle, 8. And the Table, ... 9. And the Altar, ... 10. And the clothes of service, ... 11. And the anointing oil, and sweet incense for the holy *place*; according to all that I have commanded thee, shall they do."

Ex 36: 1. "Then wrought Bazaleel and Aholiab, ... according to all that the Lord had commanded."

Ex. 38: 22. "And Bezaleel the son of Uri, the son of Hur, of the tribe of Judah, made all that the Lord commanded Moses."

Ex. 25: 1. "And the Lord spake unto Moses, saying, ... 17. And thou shalt make a Mercy seat *of* pure gold . . . . 18. And thou shalt make two Cherubim *of* gold . . . . 22. And there I will meet with thee, and I will commune with thee, from above the Mercy seat, from between the two Cherubim which *are* upon the Ark of the Testimony, of all *things* which I will give thee in commandment unto the children of Israel.'

Num. 7 : 89. "And when Moses was gone into the Tabernacle of the Congregation to speak with him, [the Lord,] then he heard the voice of one speaking unto him, from off the Mercy Seat, that *was* upon the Ark of Testimony, from between the two Cherubim: and he spake unto him."

1 Sam. 4 : 4. "So the people sent to Shiloh, that they might bring from thence the Ark of the Covenant of the Lord of hosts, which dwelleth between the Cherubim."

2 Sam. 6 : 2. "And David arose and went with all the people that *were* with him, from Baale of Judah, to bring up from thence the Ark of God, whose name is called by the name of the Lord of hosts; that dwelleth between the Cherubim."

2 Kings 19 : 15. "And Hezekiah prayed before the Lord, and said O Lord God of Israel, which dwellest betweeen the Cherubim."

Is. 6 : 1, 7. In his vision of God's glory, Isaiah tells us:—"In the year that King Uzziah died I saw also the Lord sitting upon a throne, high and lifted up, and his train filled the temple. 2. Above it stood the Seraphim: each one had six wings: with twain he covered his face, and with twain he covered his feet, and with twain he did fly. 3. And one cried unto another, and said, Holy, holy, holy *is* the Lord of hosts: the whole earth is full of his glory. 4. And the posts of the door moved at the voice of him that cried, and the house was filled with smoke. 5. Then said I, *Woe is me!* for I am undone; because I *am* a man of unclean lips, and I dwell in the midst of a people of unclean lips: for mine eyes have seen the King, the Lord of hosts. 6 Then flew one of the Seraphim unto me, having a live coal in his hand, *which* he had taken with the tongs from off the altar: 7. And he laid *it* upon my mouth and said, Lo, this hath touched my lips: and thine iniquity is taken away, and thy sin purged."

Is. 37 : 15, 16. "And Hezekiah prayed unto the Lord, saying, O Lord of hosts, God of Israel, that dwellest *between* the Cherubim."

Ps. 80 : 1. "Give ear, O Shepherd of Israel, thou that leadest Joseph like a flock; thou that dwellest *between* the Cherubim, shine forth."

Ps. 99 : 1. The Lord reigneth; let the people tremble: he sitteth *between* the Cherubim; let the earth be moved."

Ezek. 1 . 1 to 25. "Now it came to pass in the thirtieth year, in the fourth *month*, in the fifth *day* of the month, as I *was* among the captives by the river of Chebar, *that* the heavens were opened, and I saw visions of God. 2. In the fifth *day* of the month, which *was* the fith year of king Jehoiachan's captivity, 3. The word of the Lord came expressly unto Ezekiel the priest, the son of Buzi, in the land of the Chaldeans by the river Chebar; and the hand of the Lord was there upon him. 4. ¶ And I looked, and, behold, a whirlwind came out of the north, a great cloud, and a fire infolding itself, and a brightness *was* about it, and out of the midst thereof as the color of amber, out of the midst of the fire. 5. Also out of the midst thereof *came* the likeness of four living creatures. And this *was* their appearance: they had the likeness of a man. 6. And every one had four faces, and every one had four wings. 7. And their feet *were* straight feet; and the sole of their feet *was* like the sole of a calf's foot: and they sparkled like the colour of burnished brass. 8. And *they had* the hands of a man under their wings on their four sides; and they four had their faces and their wings. 9. Their wings *were* joined one to another; they turned not when they went; they went every one straight forward. 10. As for the likeness of their faces, they four had the face of a man, and the face of a lion, on the right side: and they four had the face of an ox on the left side: they four also had the face of an eagle. 11. Thus *were* their faces: and their wings *were* stretched upward: two *wings* of every one *were* joined one to another, and two covered their bodies. 12. And they went every one straight forward; whither the spirit was to go, they went; *and* they turned not when they went. 13. As for the likeness of the living creatures, their appearance *was* like burning coals of fire, *and* like the apppearance of lamps: it went up and down among the living creatures: and the fire was bright, and out of the fire went forth lightning. 14. And the living creatures ran and returned as the appearance of a flash of lightning. 15. ¶ Now as I beheld the living creatures, behold one wheel upon the earth by the living creatures, with his four faces. 16. The appearance of the wheels and their work *was* like unto the colour of a beryl: and they four had one likeness; and their appearance and their work *was* as it were a wheel in the middle of a wheel. 17. When they went they went upon their four sides: *and* they turned not when they went. 18. As for their rings, they were so high that they were dreadful; and their rings *were* full of eyes round about them four. 19. And when the living creatures went, the wheels went by them: and when the living creatures were lifted up from the earth, the wheels were lifted up. 20. Whithersoever the spirit was to go, they went, thither *was their* spirit to go; and the wheels were lifted up over against them: for the spirit of the living creature *was* in the wheels. 21. When those went, *these* went; and when those stood, *these* stood; and when those were lifted up from the earth, the wheels were lifted up over against them: for the spirit of the living creature *was* in the wheels. 22. And the likeness of the firmament upon the heads of the living creature *was* as the colour of the terrible crystal, stretched forth over their heads above. 23. And under the firmament *were* their wings straight, the one toward the other: every one had two, which covered on this side, and every one had two, which covered on that side, their bodies. 24. And when they went, I heard the noise of their wings, like the noise of great waters, as the voice of the Almighty, the voice of speech, as the noise of a host: when they stood, they let down their wings. 25. And there was a voice from the firmanent that *was* over their heads, when they stood, *and* had let down their wings."

Ezek. 3: 12 to 14. "Then the spirit took me up, and I heard behind me a voice of a great rushing, *saying*, Blessed *be* the glory of the Lord from his place. 13. *I heard* also the noise of the wings of the living creatures that touched one another, and the noise of the wheels over against them, and a noise of a great rushing. 14. So the spirit lifted me up, and took me away. And I went in bitterness, in the heat of my spirit: but the hand of the Lord was strong upon me."

Ezek. 8: 1. "And it came to pass in the sixth year, in the sixth month in the fifth day of the month, as I sat in my house, ... that the hand of the Lord God fell there upon me. 2. Then I beheld, and lo, a likeness as the appearance of fire."

Ezek. 9 . 1. He cried also in mine ears, ... 2. And behold . . . . 3. And the glory of the God of Israel was gone up from the Cherub whereupon he was, to the threshold of the house,"

Ezek. 10: 1 to 22. "Then I looked, and, behold, in the firmament that *was* above the head of the Cherubim there appeared over them as it were a sapphire stone, as the appearance of the likeness of a throne. 2. And he spake unto the man clothed with linen, and said, Go in between the wheels, *even* under the Cherub, and fill thine hand with coals of fire from between the Cherubim, and scatter *them* over the city. And he went in in my sight.

3. Now the Cherubim stood on the right side of the house, when the man went in; and the cloud filled the inner court. 4. Then the glory of the Lord went up from the Cherub, *and stood* over the threshold of the house; and the house was filled with the cloud, and the court was full of the brightness of the Lord's glory. 5. And the sound of the Cherubim's wings was heard *even* to the outer court, as the voice of the Almighty God when he speaketh. 6. And it came to pass, *that* when he had commanded the man clothed with linen, saying, Take fire from between the wheels, from between the Cherubim; then he went in, and stood beside the wheels. 7. And *one* Cherub stretched forth his hand from between the Cherubim unto the fire that *was* between the Cherubim, and took *thereof*, and put *it* into the hands of *him that was* clothed with linen; who took *it*, and went out. 8. ¶ And there appeared in the Cherubim the form of a man's hand under their wings. 9. And when I looked, behold the four wheels by the Cherubim, one wheel by one Cherub, and another wheel by another Cherub: and the appearance of the wheels *was* as the colour of a beryl stone. 10. And *as for* their appearances, they four had one likeness, as if a wheel had been in the midst of a wheel. 11. When they went, they went upon their four sides; they turned not as they went, but to the place whither the head looked they followed it; they turned not as they went. 12. And their whole body, and their backs, and their hands, and their wings, and the wheels, *were* full of eyes round about, *even* the wheels, that they four had. 13. As for the wheels, it was cried unto them in my hearing, O wheel. 14. And every one had four faces: the first face *was* the face of a Cherub, and the second face *was* the face of a man, and the third the face of a lion, and the fourth the face of an eagle. 15. And the Cherubim were lifted up. This *is* the living creature that I saw by the river of Chebar. 16. And when the Cherubim went the wheels went by them: and when the Cherubim lifted up their wings to mount up from the earth, the same wheels also turned not from beside them. 17. When they stood, *these* stood; and when they were lifted up, *these* lifted up themselves *also*: for the spirit of the living creature *was* in them. 18. Then the glory of the Lord departed from off the threshold of the house, and stood over the Cherubim. 19. And the Cherubim lifted up their wings, and mounted up from the earth in my sight: when they went out, the wheels also *were* beside them, and *every one* stood at the door of the east gate of the Lord's house; and the glory of the God of Israel *was* over them above. 20. This *is* the living creature that I saw under the God of Israel by the river of Chebar; and I knew that they *were* the Cherubim. 21. Every one had four faces apiece, and every one four wings; and the likeness of the hands of a man *was* under their wings. 22. And the likeness of their faces *was* the same faces which I saw by the river of Chebar, their appearances and themselves: they went every one straight forward."

Dr. A. A. Hodge, in his *Outlines of Theology*, quotes these passages from "Fairbairn's Typology," Part II., Chapter I., Section 3:—

"'They [Cherubim] were ideal creatures, compounded of four parts, those namely, of a man, an ox, a lion, and an eagle. . . . . . . The predominate appearance was that of a man, but the number of faces, feet and hands, differed according to circumstances.' Ezek. 1: 6, compared with Ezek. 41: 18, 19, and Ex. 25: 20. To the same ideal beings is applied the designation 'living creatures,' (Ezek. 1: 5—22; *Ib.* 10: 15, 17; Rev. 4; 6—9; *Ib.* 4: 6—14, *Ib.* 6: 1—7; *Ib.* 7: 11; *Ib.* 14: 3; *Ib.* 15: 7; *Ib.* 19: 14,) rendered in our version 'beasts.' 'They were *symbolical* of the highest properties of creature life, and of these as the outgoings and manifestation of the divine life; but they were *typical* of redeemed and glorified manhood, or prophetical representations of it, as that in which these properties were to be combined and exhibited. They were appointed immediately after the fall, to man's original place in the garden, and to his office in connection with the tree of life.' Gen. 3 : 24. . . . . . . 'The other and more common connection in which the Cherub appears is with the the throne or peculiar dwelling place of God. In the holy of holies of the tabernacle, (Ex. 25 : 22,) he was called the God who dwelleth between and sitteth upon the Cherubim, (1 Sam. 4 : 4 ; Ps. 80 : 1 ; Ezek. 1 : 26, 26 ;) whose glory is above the Cherubim. In Rev. 4 : 6, we read of the living creatures who were in the midst of the throne and around about it.' . . . . . . 'What does this bespeak but the wonderful fact brought out in the history of redemption, that man's nature is to be exalted to the dwelling-place of the Godhead? In Christ it is taken, so to speak, into the very bosom of the Deity; and because it is so highly honored in him, it shall attain to more than angelic glory in his members.' " (*Outlines of Theology*, p. 197.)

"The word Seraphim signifies *burning, bright, dazzling*. It occurs in the Bible only once.—Is. 6 : 2, 6. It probably presents, under a different aspect, the ideal beings commonly designated Cherubim and living creatures." (*Ibid.*)

In *Hitchcock's Analysis* will also be found many passages of Scripture which refer directly to a Personage called "The Angel of the Lord" or "The Angel of God." He is only referred to in the Old Testament, except that he is thus mentioned in the New Testament :—

Acts 7 : 30. Stephen thus speaks in his answer to his accusers contained in Verses 1 to 53. "And when forty years were expired, there appeared to him [Moses] in the wilderness of mount Sinai an Angel of the Lord in a flame of fire in a bush. 31. When Moses saw *it*, he wondered at the sight: and as he drew near to behold *it*, the voice of the Lord came unto him, 32. *Saying*, I *am* the God of thy fathers, the God of Abraham, and the God of Isaac, and the God of Jacob. Then Moses trembled, and durst not behold. 33. Then said the Lord to him, Put off thy shoes from thy feet: for the place where thou standest is holy ground. . . . . . . 35. This Moses whom they refused, saying, Who made thee a ruler and a judge? the same did God send *to be* a ruler and a deliverer by the hand of the angel which appeared to him in the bush. . . . . . . 38. This is he, that was in the church in the wilderness with the Angel which spake to him in the mount Sinai, and *with* our fathers: who received the lively oracles to give unto us: 39. To whom our fathers would not obey, but thrust *him* from them, and in their hearts turned back again into Egypt."

The Old Testament references to this Angel are distributed by Hitchcock under these heads :—

1. Promised. (§ 1.)
2. Expected, or Asked for. (§ 2.)
3. Instances of his Appearing. (§ 3.)
4. Inspires Terror. (§ 4.)
5. Exercises Authority. (§ 5.)
6. Affords Protection. (§ 6.)
7. Utters Predictions. (§ 7.)
8. Permits Oblations. (§ 8.)
9. Refuses to Give his Name. (§ 9.)
10. Identified with God. (§ 10.)

(See *Hitchcock's Analysis*, pp. 196, 197.)

We see no reason to doubt that all the Angelic Creatures mentioned in the Bible refer to real existences. Dr. Charles Hodge, in his *Systematic Theology,* devotes Chapter XIII. to ANGELS :—

"That there are intelligent creatures higher than man, has been a general belief. It is so consonant with the analogy of nature as to be in the highest degree probable, apart from any direct revelation upon the subject. In all departments of nature there is a regular gradation from the lower to the higher forms of life; from the almost invisible vegetable fungus in plants to the cedar of Lebanon; from the minutest animalcule, to the gigantic mammoth. In man we meet with the first, and to all appearances the lowest of rational creatures. That he should be the only creature of his order is, *à priori,* as improbable as that insects should be the only class of irrational animals. There is every reason to presume that the scale of being among rational creatures is as extensive as that in the animal world." (*Systematic Theology,* p. 637.)

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The existence of ranks and orders among the rational created intelligences of Heaven is also shown from the analogy of the fallen angels, among whom there are various grades.

Eph. 2 : 2.—"according to the prince of the power of the air, the spirit that now worketh in the children of disobedience."

Eph. 6 : 12.—"the prince of darkness."

Matt. 9 : 34.—"the prince of the devils."

Matt. 25 : 41.—"the devil and his angels."

Rev. 9 : 11.—"the angel of the bottomless pit."

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In *Hitchcock's Analysis,* Chapters IV. and V. of Book IX., are devoted to the fallen angels. He thus classifies them and distributes under these heads the passages of Scripture which refer to "SATAN" and "EVIL ANGELS" :—

1. Satan. (Ch. IV. §§ 29 to 42.)
2. Evil Angels.—Their Fall and Imprisonment. (Ch. V. § 43.)
3. Not Closely Confined. (§ 44.)
4. Forms (in Vision.) (§ 45.)
5. Power (in Vision.) (§ 46.)
6. Number of. (§ 47.)
7. Possession by. (§ 48.)
8. Casting out. (§ 49.)
9. Identified with Idols. (§ 50.)
10. Are not Unbelievers. (§ 51.)

(*Hitchcock's Analysis,* pp. 202, 203, 204, 205.)

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[Quote further from *Systematic Theology*, p. 636 *et seq.* and from *Outlines of Theology*, p. 198, *et seq.*]

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It is probable that there is no distinction of sex among the *created* Angels :—

Matt. 22 : 23. "The same day came to him the sadducees, which say that there is no resurrection, and asked him, 24. Saying, Master, Moses said, If a man die, having no children, his brother shall marry his wife, and raise up seed unto his brother. 25. Now there were with us seven brethren : and the first, when he had married a wife, deceased, and, having no issue, left his wife unto his brother : 26. Likewise the second also, and the third, unto the seventh. 27. And last of all the woman died also 28. Therefore in the resurrection whose wife shall she be of the seven? for they all had her. 29. Jesus answered and said unto them, Ye do err, not knowing the Scriptures, nor the power of God 30. For in the resurrection they neither marry nor are given in marriage, but are as the angels of God in heaven." (See also Mark 12 : 18 to 27.)

There was no need of any distinction of sex there, as the "ancients" supposed when they found "infidelity" a sin among their "mythological gods," e. g., the spouse of Vulcan. (*Anthon's Classical Dic.*, tit. Apollo, p. 161.) It is worthy of remark, however, that the Bible nowhere refers to any particular created Angel as of the female sex. Each of these either has a masculine name or is mentioned as "he" or "him." The aboriginal inhabitants of heaven were all created. Any accessions to the heavenly host were probably not designed to be effected through the process of procreation. Any accessions through the resurrection, by "translation," or by new creations, or otherwise, would not involve any necessity, nor even any probability of commerce between sexes. There is nothing to be argued from analogy nor from any considerations conceivable by man to be consistent with God's procedure in the Divine Government, to give plausibility to such an idea. When we shall come, in regular order, to speak of the Resurrection, in Division VII., Subdivision 9, we will dwell further on this subject. We do not doubt that every human soul will preserve its identity in heaven or hell, whether it be of man, woman, or child. [The rich man in hell sees Lazarus with Abraham in heaven ; (Luke 16 : 19 ;) the thief goes from the cross to heaven ;

(Luke 23 : 43 ;) Enoch is translated to heaven ; (Gen. 5 : 24 ; Heb. 11 : 5 ;) also, Elijah ; (1 Kings 18 : 12 ; 2 Kings 2 : 1, 11—18 ;) and many others are spoken of as gone or going to one or the other of those places. Among other texts, see Rev. 11 : 12 : Matt. 18 : 10.] Its sex while in this world will be recognizable in the "hereafter" ; but such recognition will not be accompanied by any of the conditions under which the inhabitants of this world dwelt. Here, the importance of the distinction between the sexes is known only on "certain conditions" in the order of nature. There, whether in heaven or hell, the order of nature is gone, forever ; for, in those places, the *super*-natural alone exists. Byron, in his drama of *Cain*, (which Jeffrey in a foot note to the edition of D. Appleton & Company, New York, 1852, characterises as "a very elaborate and specious argument, directed against the goodness or the power of the Deity,") makes Lucifer sneeringly say to the murderer that in this order consisted "the very best of thine enjoyments," (Act II., Scene 1,) as if deeds of charity and the like were not well known to be the highest enjoyment ! It may be that in hell they would take to themselves concubines, but can't ; and we know that in heaven, purged as it has been by the ejection of the disobedient, they now have no desire but to please the Almighty.

1 Pet. 1 : 4. — "an inheritance incorruptible, and undefiled."

Ps. 16 : 11. — "in thy presence *is* fulness of joy ; at thy right hand are pleasures forevermore."

Matt. 19 : 29 "And every one that hath forsaken houses, or brethren, or sisters, or father, or mother, or wife, or children, or lands, for my name's sake, shall receive, a hundred fold, and shall inherit everlasting life."

Rev. 21 : 4. "And God shall wipe away all tears from their eyes ; and there shall be no more death, neither sorrow, nor crying, neither shall there be any more pain : ☞ FOR THE FORMER THINGS ARE PASSED AWAY."

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They must have "senses," but not like ours ; for they are not subject to the same *material* conditions. Those cognitions in man which enable him to say he hears, sees, smells, tastes and feels, when scientifically expressed would, in each instance, involve some phenomena of motion to atoms. (*Ante* p. 179 *et seq.*) With created Angels and disembodied souls, however, there are no conditions dependent on such phenomena. They require neither food nor drink ; because there is no waste of body or tissue to be replenished. They have "organs" so far resembling those in man, that they can converse, hear and make themselves heard, see and be seen, among themselves, and probably have some others, by which they can smell, taste and feel, after some order of perfectability and enjoyment, in those senses, incomparably superior to any thing of the kind known in man's experience.

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In our view, all Angels were designed as messengers and executors of the will of God. They were not invested with power to act independently. Their powers were all delegated and restricted. It is probable that discretion has been, from time to time, conferred upon all, as to the methods and times of effecting what God had commanded ; and this discretion has probably been more or less enlarged in respect to Angels who were in the ascending scale of meritorious performance of duty, of proficiency in knowledge concerning celestial things, and of zeal for promoting the glories of Heaven. Thus Michael and Gabriel attained very high preferments ; and so on, from the least up to the greatest of created intelligences there. The least here mentioned are probably those who simply "keep within the law" ; who just fulfil their duties, without emulating the diligence of their competitors in holiness and love.

Matt. 11 : 11. "Verily I [Jesus] say unto you, Among them that are born of women there hath not risen a greater than John the Baptist : notwithstanding, he that is least in the kingdom of heaven is greater than he."

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Until the fall of Lucifer and those who followed him, the host of the created intelligences of heaven were on "probation." He must, for a time, have excelled in the line of promotion, and must have been promoted in discretionary power accordingly. From the very nature of moral responsibility he had freedom of choice between conformity to God's will and an ambition to be like the Son, " equal with God," (John 5 : 18.) In the " economy" of the Divine Government considerable latitude was allowed in this exercise of choice among its heavenly subjects. It is so here, in the best human governments ; it must have been so there. There, as here, treason is only recognized by an " overt act." (See *Bouvier's Law Dictionary*, tit. OVERT.) It is the last decision of the will (*ante* pp. 206, 218,) which determines the intent ; and, so long as the decision is not finally made, there remains a conserving and restraining force, in the conscience, [soul,] which may ultimately divert the actor from the fatal choice to consummate an act of disobedience. The dying thief on the cross verified this ; (Luke 23 : 43 ;) and Dr. Watts tells us, with truth, that " while the lamp holds out to burn, the vilest sinner may return." While God foreknew, at the time of their creation, that Lucifer and his followers would fall precisely as he and they did fall, and while God in his goodness and love, probably warned him and them against the sin of disobedience, it is certain that the same goodness and love would leave them untrammeled in choice unto perfect obedience ; but this view will be more elaborately treated under another head. (See Division VII., Subdivision 1.) We introduce it here only so far as it is necessary in order to make clearer what we shall say in the concluding Chapter of this Division. Thus warned, it appears that Lucifer, for a time, observed the caution ; and we may infer, from the fact of his becoming a leader of so many followers, that he so far advanced in the line of preferment that he became a rival of Michael and Gabriel ; and it may be that he, for a time, excelled them in acts of obedience, and in the right exercise of discretionary power. At this stage of his career it appears that he conceived and sought to carry out a scheme of ambition, if not to dethrone God, to at least set up a separate kingdom. We may infer that this scheme was planned through pride ; for we are told that a bishop should take care, " lest, being lifted up with pride, he fall into the condemnation of the devil." (1 Tim. 3 : 6.) Milton ascribes the treason of Lucifer and his followers to pride ; which is the key-note to his *Paradise Lost.*

> ——" his pride
> Had cast him out from Heaven, with all his host
> Of rebel angels : by whose aid, aspiring
> To set himself in glory, above his peers
> He trusted to have equall'd the Most High." (Book I., line 36.)

We are told, further, in Rev. 12 : 7, 8, 9,—" there was war in heaven : Michael and his Angels fought against the dragon, and the dragon fought and his Angels, 8. And prevailed not ; neither was their place found any more in heaven. 9. And the great dragon was cast out, that old serpent, called the devil, ... and his angels were cast out with him." Lucifer, who is here referred to as the " dragon," and all his followers, were, in common with the better Angels of heaven, before this, on "probation ;" but, after this purging, by the casting out of the disobedient, those who remained had served out their probation, had *proved* themselves worthy of heaven, and became the " elect" of God ; (1 Tim. 5 : 21 ;) which means that he will uphold them, in their freedom of choice, to a " perseverance" (Eph. 6 : 18) " unto the end." (Matt. 10 : 22 ; 28 : 20 ; John 13 : 1 ; 1 Cor. 1 : 8 ; Heb. 6 : 11 ; Rev. 2 : 26.)

We shall see, in Subdivision 10 of this Division, that Mankind were probably created to provide a new and different, although an analagous, method of probation, for supplying the place in heaven, which had there been made vacant by this casting out of Lucifer and his followers. God could, if he choose, have immediately supplied, and oversupplied, their places, by fresh creations. But, it seems most probable that he intended and intends to do this through the instrumentality of Matter, which we will consider in the next Subdivision.

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Some Reader may say, If the cells of every atom and the interstices among atoms be filled with ether, and if the cells of all ether be filled with mind, and if the cells of mind be filled with spirit, and if spirit has no cells, then the whole material universe is literally full, so that there are no cells to contain any thing more ; and he may ask, How do embodied spirits, Angels good and evil, occupy material space, the former to minister to the righteous and the latter to tempt all and to possess "not a few ?" We have not said that *infinite* spirit fills *all* cells of mind. Upon the cell theory propounded by us (*ante* p. 182) we intimated that all cells, except those of mind, were thus filled by their occupant, through *natural* affinity ; that the cells of mind,—not of all mind, but of mind to a certain extent and under "certain conditions,"—were penetrated by spirit through *super*-natural power exerted by independent, self-moving, intelligent and infinite spirit ; and that when this infinite spirit saw fit, and only when it saw fit, to penetrate the cells of mind, "on certain conditions," an animal organism was produced, for example, primeval man. Embodied spirits, Angels good or evil, cannot penetrate the cells of mind ; and they can be in but one place at the same time ; neither can they occupy the same space with another body, material or spiritual, at the same time. The instances recorded of ejecting devils, (Matt. 8 : 16 ; 9 : 32, 33 ; 12 : 22 ; 15 : 28 ; 17 : 17, 18 ; Mark 1 : 25, 26 ; 7 : 25, 26, 29, 30 ; 9 : 25, 26, 27 ; Luke 4 : 33, 34, 35 ; 6 : 18 ; 8 : 28, 29, 36 ; 9 : 42 ; 11 : 1s ; Acts 8 : 6, 7, 8,) also, of sending them into swine, (Mark 5 : 10, 11, 12, 13 ; Luke 8 : 31, 32, 33,) are given in *Hitchcock's Analysis*, together with other "miraculous deliverances and phenomena," including "transfigurations," "transformations," and the like ; (pp. 141, 142 ;) and none of these will be found to justify a belief that any but God's spirit can penetrate the cells of mind. [Here show this more fully.] The substance of angelic bodies is non-material, and is not subject to laws which govern matter. It is probably a special creation of peculiar substance, with cells, perhaps, but impenetrable to any substance except spirit. When created and embodied of this peculiar substance it is probable that spirit proceeding from the Godhead penetrated and quickened the substance of their bodies, so that they became living creatures, endowed with intelligence, freedom of choice, and certain powers. All this was by direct fiat, without any process of development, nor through the agency of force or forces exerted arbitrarily in subordination to law. Their bodies were not subject to decay or change ; and, once made alive by this procedure, they became immortal intelligences. Cast out of heaven, Lucifer and his followers became the Devil and his angels, probably without change in their bodies, as to form or substance, and without being divested of the spirit which made them immortal. They are shut out from heaven, forever ; but have power to traverse the universe outside of heaven, or, at least, certain parts of that universe ; it may be only the region of this earth. The former appears most probable ; for that would come nearest the idea of the immensity of the "fall" into a "bottomless pit" ; (Rev. 9 : 1 to 12,) a place of "perdition." (Rev. 17 : 8, 11.) We are told that such an abyss was "prepared for the devil and his angels" ; (Matt. 25 : 41 ;) and it would not overtax the imagination to locate it outside the material universe, where, indeed, it would be not only bottomless, but would otherwise answer the description, both figurative and real, given of it in the Bible. (See *Hitchcock's Analysis*, pp. 682, 683.) That place, wherever it is, is their home. The Devil rules there as king. (Rev. 9 ; '11.) It is not such a kingdom as his ambition sought, when he waged war against the Most High ; but such as he deserved, and such as was *necessary*, as we shall see farther on, (*post* Div. VII., Sub. 10,) in order to provide a place of punishment for the disobedient among morally responsible beings of subsequent creation. He hates God and God's ways ; so do his angels ; "for every one that doeth evil, hateth the light" ; (John 3 : 20 ;) but there are probably many among the latter who are so far deficient in loyalty that they call on God, too late, alas, to deliver them from that dominion.

James 2: 19. "The devils also believe and tremble."

Luke 13: 19 to 31. The soul of a certain rich man became as one of the devils, "and in hell he lifted up his eyes, being in torments, and seeth Abraham afar off," in heaven. He called on Abraham for relief which was denied, and he was told "between us and you is a great gulf fixed; so that they which would pass from hence to you cannot; neither can they pass to us, that *would come* from thence."

Matt. 8: 12. — "cast out into outer darkness." (Matt. 25: 30.)

Jude 13. — "to whom is reserved the blackness of darkness forever."

2 Thess. 1: 9. "Who shall be punished with everlasting destruction from the presence of the Lord, and from the glory of his power." This outer darkness would accord with the idea Tyndall seems to have of that portion of the material universe which he supposes to be beyond the presence of ether; the absence of which would prevent "burning suns" from emitting any light; also, from "radiating" any heat until actually touched. (*Fragments of Science*, pp. 10, 11. See extract *ante* pp. 55, 56.)

The hate of the Devil, coupled with pride to be great even in hell and rival the Almighty at least in the number of subjects, moves him to go and send throughout the material universe seeking recruits. The only creatures among whom he can carry on this work are morally responsible beings undergoing a life of probation. These, so far as we know, are confined to this planet. It may be that he entertains the vain hope that he may yet marshal a host sufficient to carry the kingdom of heaven by storm. He seeks out and finds our first parents, on this earth, and we are told in the Bible (Gen. 3: 1, 6,) with what success he tempted them to fall, in the sin of disobedience, and how he and his angels have tempted and caused to fall multitudes of succeeding generations, even unto this day. (1 Peter 5: 8.) We are told, on the other hand, that the Angels of God are sent by the Lord, and that he, at times, personally interposes to protect those who love him from the wiles of those who hate him; (Ps. 9: 1, 11,) but it does not appear from Scripture, nor is it probable, that there is any struggle going on between a good and an evil angel over any soul. The Devil's angels are continually busy with their temptations to all men, but it is not necessary that God's Angels should be continually busy with all men, indiscriminately, to prevent them from yielding to these temptations. (See Div. VII., Sub. 1.) God has implanted within every man the power so to resist; (*ante* p. 205;) and if the man tempted struggles to resist, and, fearing he cannot, calls on God to help him, then God will enable him to resist, by increasing his power of resistance. (Matt. 7: 7, 8, 9.) It has been only in some special instances that God has sent Angels to minister unto men. (See instances in *Hitchcock's Analysis*, p. 201.) The only text which seems to convey an idea to the contrary is Heb. 1: 13, "Are they not all ministering spirits, sent forth to minister for them who shall be heirs of salvation?" that is, the "elect," [which title see in *Cruden's Concordance.*] We find no text to justify us in supposing that there has been any "collision" between opposing Angels since the fall of Lucifer and his followers. The struggle is between evil angels and man's conscience, [soul,] and man can, if he so chooses, resist the blandishments of the evil one. (Jam. 4: 7.) The moment the latter perceives that a good Angel has been sent as a protector, this "demon" withdraws through fear of God. (See *Hitchcock's Analysis*, pp. 201 to 205.) These embodied spirits can see each other; (Rev. 12; 7;) and neither is restrained in his movements by reason of the presence of another, except as God specially orders. They need not, and probably do not, go through any material bodies, but only hover and go around and about them. They pass through the air and space like a bird of good or ill omen. In doing this they need not change form nor diminish nor enlarge stature, which we may rationally suppose to be fixed like that of a man. They are all probably about the stature of men and resemble men in form, (*ante* p. 240,) with some exceptions such as we find described in the Scriptures. (*Ante* pp. 245, 248. *Post* pp. 272 *et seq.*) They can bound through space with the quickness of lightning; as quickly as our Lord says Satan [Lucifer] did when he fell from heaven; (Luke 10; 18;) as quickly as we are told the Cherubim run and fly:—"The living creatures ran and returned as the appearance of a flash of lightning;" (Ezek. 1: 14;) "the Cherubim lifted up their wings, and mounted up from the earth;" (Ezek. 3: 19;) as quickly as Jeremy Taylor imagines the flight of a disembodied soul from earth to heaven; [Here quote;] as quickly as Shelley makes *Queen Mab* drive her etheriel coursers; [Here quote;] as quickly as Byron profanely describes the coming of a host of witnesses from hell to the heavenly gate in obedience to a summons from Satan, on a supposed trial involving the right of a departed English king to enter there:—

"When the great signal ran from heaven to hell—
  About ten millions times the distance reckon'd
From our sun to its earth, as we can tell
  How much time it takes up, even to a second,
For every ray that travels to dispel
  The fogs of London . . . .
. . . . —'Twas half a minute:
  I know the solar beams take up more time
Ere, pack'd up for their journey, they begin it;
  But then their telegraph is less sublime,
And if they ran a race they would not win it
  'Gainst Satan's couriers bound for their own clime.

. . . .
  Upon the verge of space, about the size
Of half-a-crown, a little speck appeared,
  . . . . it near'd,
And growing bigger, took another guise;
  Like an ærial ship it tack'd and steer'd,
. . . . and then it grew a cloud;
  And so it was—a cloud of witnesses,
But such a cloud! No land e'er saw a crowd
  Of locusts numerous as the heavens saw these;
They shadow'd with their myriads space—"
(*Vision of Judgment*, Cantos 52 to 57.)

How the evil angels proceed in tempting men, and how the good Angels proceed in ministering to the righteous, we will consider further on. (See Division VII. Subdivision 1.)

The chief characteristic of Angels is HOLINESS.

7. MATTER.

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In Division I. we did not point out the distinction between Mind and Spirit, except incidentally, (*ante* pp. 50, 54, 147,) until we referred in our Logical Conclusions to the Atomic Theory as furnishing one of the strongest evidences of the existence of God. (*Ante* p. 181, *et seq.*) There, we did not set down Mind as a substance to be classed with Matter ; but as a substance which partakes of the character of Matter, inasmuch as we suppose that it penetrates all cells of ether, and that it has cells which can be penetrated by non-cellular Spirit alone. Locke, we are told by Cousin, (*ante* p. 50,) is inclined " to make Mind a modification of Matter." Dr. McCosh lays down the proposition, " As Matter cannot be resolved into Mind on the one hand, so Mind cannot be resolved into Matter on the other" ; (*ante* p. 60 ;) but he argues, farther on, " that Mind and Body are entitled, not by the aid of anything else, but of themselves, to be regarded as *substances*" ; yet, still farther on" (*ante* p. 68,) he adds, " Mind does not seem to me to be connected with rude Matter, with the Molecules of Matter ; but with the Forces in Matter, with the correlated Forces." Mr. Huxley finds a substance underlying atoms which he calls " Protoplasm," or a " Physical Basis of Life," (*ante* pp. 127, 128,) upon which he advances a theory that *life* proceeds from preëxisting living matter, which " is always dying ; and, strange as the paradox may sound, could not live unless it died." In our amplification of the Atomic Theory we inserted a *quere*. (*ante* p.

182,) as to whether Mind, an inert substance until its cells were penetrated with Spirit, may not be this Physical Basis of Life. We see no objection to defining Matter as any elementary substance with "cells"; and, in this view of it, we might properly classify Mind with Matter. It will be more convenient to treat it under this head; and this involves the idea that it was created, not imparted. A theory of the "Constitution of the Universe" appears to us to be incomplete unless we find an *ultimate* substance; and this we do not find, under the present disclosures of Science, to be Mind, but Spirit. We do not remember to have seen anything in orthodox theology opposed to the idea of Mind being created, as a substance, to form a basis for converting "inert" Matter into *living* Matter. If it is proper to consider Mind to be thus constituted, we must reconstruct our theory, as propounded in Division I, in so far as to give these as the Grand Divisions of the Universe, viz., Spirit and Matter, instead of Mind and Matter, (*ante* pp. 64, 73,) or, instead of Mind, Spirit and Matter. (*Ante* p. 182.) We are told in Scripture that "God is a Spirit," (John 4 : 24,) who doth "fill heaven and earth," (Jer. 23 : 24,) and "hath done whatsoever he pleased"; (Ps. 115 : 3;) also, that "from everlasting to everlasting," (Ps. 90 : 2,) he is the "I am," (Ex. 3 : 14,) and "for him, and through him, and to him are all things." (Rom. 11 : 36.) Mind coupled with Matter does not seem to us to be the same Mind as that which is coupled with Spirit, any more than "physical force" is the same moving power as Spiritual Force. The former is subordinated to an arbitrary law of order, while the latter is independent and self-moving. Spirit is, in and of itself, intelligent. We invest Spirit with "mind," because we find Mind a component of our own selves. This we do from analogy; but it does not follow from the fact of our thinking through Mind that God is dependent for his thoughts on that substance. He can think and choose by his own Spirit, while we cannot think and choose except as created Mind within us is "spiritualized" by his penetrating it with Spirit. Neither does it follow that this Spirit is necessarily, although it is probably, part of his own. He hath power to create spiritual substance or substances different from or as a modification or as modifications of his own, to vitalize Mind, and thus cause organisms to arise, grow and reproduce, "under certain conditions" and to spiritualize Mind, and thus cause intelligence, under "certain [other] conditions."

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[Here elaborate the items of the theory propounded *ante* pp. 178 to 188; and explain more fully any thing there stated which appears to be contrary to generally received opinions. See extracts from *Chambers' Encyclopedia*, and other works, *ante* p. 53 *et seq.* on Atomic Theory.]

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Thus, we may take up any recent approved work on Chemistry or Physics, and paraphrase it to fit in with the theory of atoms, ether, mind, spirit and force as set forth in these pages.

In his *Lay Sermons*, (p. 350,) under the title "Spontaneous Generation," Mr. Huxley declares himself a believer in Biogenesis, which holds the hypothesis that "living matter always arises by the agency of pre-existing living matter"; as opposed to the contrary doctrine, called Abiogenesis, that "living matter may be produced by not living matter." He gives a history of the rise and progress of the discussions and experiments designed to solve these problems; and, after stating his conviction that there is "no life without antecedent life," he adds this qualification as to Abiogenesis :—

> "But though I cannot express this conviction of mine too strongly, I must carefully guard myself against the supposition that I intend to suggest that no such thing as Biogenesis ever has taken place in the past or ever will take place in the future. With organic chemistry, molecular physics, and physiology, yet in their infancy, and every day making prodigious strides, I think it would be the height of presumption for any man to say that the conditions under which matter assumes the properties we call vital may not, some day, be artificially brought together. All I feel justified in affirming is, that I see no reason for believing that the feat has been performed yet." (*Lay Sermons*, p. 366.)

If Mr. Huxley should discover the "certain conditions" under which the substance he calls "protoplasm" [we prefer to call it Mind] converts inert Matter into living organisms, we will undertake to find in those conditions the presence of Spirit penetrating that substance ; not by natural arbitrary law, but by choice. It has been our aim not to dispute but to reconcile the theories of all true science with the Bible, and to go a step beyond what Dr. McCosh promises when he proposes to find "a curious adaptation, in these conditions, previously unknown, but now known, by which he [the Chemist] has accomplished the feat," (*ante* pp. 131, 132,) by showing that this accomplishment would not be contrary to the teachings of Scripture. (See Division IV., Subdivision 10.) We are willing to admit, for the sake of the argument, that it is not impossible that man may yet be able so to combine the elements as to see a living organism arise out of inert substances ; but, when he has done it, we will find that the basis of such life was a something, whether protoplasm, Mind, or the like, which must be first penetrated or quickened by an ultimate non-cellular substance ; that this substance is independent, self-moving and intelligent ; and that it must be what we have desiginated as Spirit. The idea that this Spirit would, by the exercise of its power to choose "means to an end," permit the Chemist to bring about such a result, is not at all probable ; but we will concede that it is not absolutely impossible. When he has, in the latter alternative, got his living organism, it may be that this Spirit would choose to confound him by the inquiry, What next ? What will he do with it ? How will he proceed to finally produce, by growth and reproduction, or by "development," or otherwise, a man like himself ? If he begins with this kind of thing, he must carry it out to the perfecting of a human being, with his well known faculties and passions. Aided by the present revelations of science, we may safely assume that he is a long way off from such a performance. In the face of such a proposition, he is ashamed and confused. He is baffled, beyond power of words to express. Will he seriously attempt to overcome the difficulties so seemingly insurmountable? He ought first to turn his attention to the compounding of an elixer, to preserve his own life and that of his fellows against the time when death cometh. But he will do neither. He will choose, rather, to let the order of nature take its course.

Having proven the Existence of God, with the Bible shut; also, that we may know much concerning God, without a Bible; also, that to know God sufficiently, a written revelation, like the Bible, is necessary; also, that the Bible, alone, contains a written revelation from God; and, also, that no man is excused from obedience to what is commanded in the Bible;—it is proper for us to deal with Life linked to Matter as if the combination proceeded from God, and not as if it might be made to proceed through the machinations of man. The quotations from Scripture which we have given under other heads already show, and we will quote others to show, more pointedly, not only that God is the Author of Matter and forms of Matter, but that he subordinates all their movements to Laws. These laws the Chemist may invoke, to some extent; but he cannot alter or control them. They are fixed and immutable. (See *ante* pp. 208, 264. See also, *Hitchcock's Analysis*, Book V., entitled "Works of God," pp. 93 to 121.)

John 1: 3. "All things were made by him," [God the Son.]

Col. 1: 16 "For by him were all things created that are in heaven, and that are in earth, visible and invisible."

Heb. 11: 3. "Through faith we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which do appear." [All material forms are built up of invisible atoms.]

Is. 40: 12. [He has so evenly adjusted all things in the universe that matter and force fulfil their offices to perfect a harmonious whole; nothing is wasted; and nothing can be added to nor be taken therefrom without destroying this harmony.] "Who hath measured the waters in the hollow of his hand? and meted out heaven with a span, and comprehended the dust of the earth in a measure, and weighed the mountains in scales, and the hills in a balance? 13. Who hath directed the Spirit of the Lord, or, being his counsellor, hath taught him? 14. With whom took he counsel, and *who* instructed him, and taught him in the path of judgment, and taught him knowledge, and shewed to him the way of understanding? 15. Behold, the nations *are* as a drop of a bucket, and are counted as the small dust of the balance: behold, he taketh up the isles as a very little thing. . . . . . . 26. Lift up your eyes on high, and behold who hath created these things, that bringeth out their host by number: he calleth them all by names, by the greatness of his might; for that he *is* strong in power, not one faileth."

Ps. 147: 4. "He telleth the number of the stars; he calleth them all by *their* names."

Job 36: 27. "For he maketh small the drops of water: they pour down rain according to the vapor thereof; 28. Which the clouds do drop *and* distil upon man abundantly."

Jer. 51: 15. —"he causeth the vapors to ascend from the ends of the earth; he maketh lightnings with rain, and bringeth forth the wind out of his treasures."

Job 37: 16. "Dost thou know the balancing of the clouds, the wondrous works of him which is perfect in knowledge?"

Job 28: 24. —"he looketh to the ends of the earth, *and* seeth under the whole heaven; 25. To make the weight for the winds; and he weigheth the water by measure."

Job 34: 14. —"*if* he gather unto himself his spirit and his breath; 15. All flesh shall perish together, and man shall turn again unto dust."

Ps. 104: 29. —"thou takest away their breath, they die and return to their dust."

Ps. 100: 3. "Know ye that the Lord he *is* God; *it is* he *that* hath made us, and not we ourselves."

Is. 10: 15. "Shall the axe boast itself against him that heweth therewith? *or* shall the saw magnify itself against him that shaketh it? as if the rod should shake *itself* against them that lift it up, *or* as if the staff should lift up *itself, as if it were* no wood."

Rom. 9: 20. "Nay but, O man, who art thou that repliest against God? Shall the thing formed say to him that formed *it*, Why hast thou made me thus? 21. Hath not the potter power over the clay, of the same lump to make one vessel unto honour, and another unto dishonour."

Prov. 19: 20. "*There are* many devices in a man's heart; nevertheless the counsel of the Lord, that shall stand."

Prov. 21: 30. "*There is* no wisdom nor understanding nor counsel against the Lord."

Ecc. 3: 14. "I know that whatsoever God doeth, it shall be forever: nothing can be put to it, nor any thing taken from it: and God doeth *it* that *men* should fear before him."

Eph. 1: 11. God "worketh all things according to the counsel of his own will."

[Here insert other passages to be selected from those collated in *Hitchcock's Analysis*, pp. 93 to 121. In BOOK V., tit. WOKS OF GOD, Ch. I., tit. CREATION he gives these heads :—1. God created the Universe ; 2. Light and Darkness ; 3. The Firmament ; 4. The Continents : Vegetable Life Begins ; 5. The Sun, Moon and Stars ; 6. Fish, Reptiles, Birds ; 7. Mammals and Man ; 8. The Creator Praised. In Ch. II., tit. PRESERVATION, he gives these heads :—9. God the Preserver of All Things ; 10. Cares for Animals ; 11. Maintains the Usual Course of Nature ; (1.) Seasons ; (2.) Day and Night ; (3.) Rain, Rainbow ; (4.) Clouds ; (5.) Hail, Snow, Cold ; (6.) Thunder and Lightning ; (7.) Winds ; 12. Preserves and Protects Man ; 13. God's Preserving Power Indispensable. There are Seven Chapters and 101 Subdivisions, the whole containing about 28 large closely printed pages of *verbatim* extracts from Scripture.]

We once more briefly state the substance of the theory we deduce from scientific data. We find that in Nature there are elementary atoms, which have cells ; that these are suspended in a medium for their movements, viz., ether ; which, likewise, has cells ; that a "physical basis of life," if you choose to call it by that name, but which we prefer to call Mind, exists ; that it, also, has cells, and penetrates the cells of ether ; and we find, over and above Nature, a substance, viz., Spirit, which has no cells, and which penetrates the cells of Mind, when inorganic atoms, thus suspended, become organic ; when inert matter becomes invested with life ; which we say cannot be effected except by Spirit, possessing the attributes assigned. And we add that these views are in accordance with Scripture. The passages we have quoted, with many others, verify the facts of science to an extent which ought to excite the liveliest emotion in the breasts of Christian philosophers and confound those "savans" who know not God.

Rev. 11 : 11. The Sixth Angel prophetically says "the spirit of life from God entered into them, [certain dead bodies,] and they stood upon their feet."

[See *Hitchcock's Analysis,* (pp. 139–142,) Book VI. Ch.

XII., tit. "MIRACULOUS TRANSLATION AND RAISING OF THE DEAD"; and Ch. XIII., tit. "MIRACULOUS DELIVERANCES AND PHENOMENA"; including "Transfigurations" and "Transformations"; which, with many other passages of Scripture, if carefully examined and compared, under the revelations of science, will be found to support our theory.]

The key to this theory is to be found in that canon of Physics which lays it down as an unalterable law that "two bodies cannot occupy the same space at the same time," whether such bodies be material or spiritual substances, or mixed of both.

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It may be asked why did God create Matter? Why was he not content with heaven and the angelic host he had created? If heaven was not on a sufficiently grand scale, why did he not amplify it? If the angels were not in sufficient variety and numbers, why did he not increase these? With the insight we have had of the plan on which God's Government proceeds, as revealed to us in the Bible, such questions are presumptuous; but no more so than those prying inquiries which the interrogators of nature who would make an organism in a crucible or test-tube are continually putting. The answer is a brief one. It was to give occupation to the created intelligences of heaven, (*ante* p. 244,) and to provide for existences outside of heaven, as part of the great plan which was to show forth God's wisdom, power and goodness, and contribute to his glory. God foreknew, from the beginning, what has and will come to pass, in so far as he chose to penetrate the future; and he knew that these outside existences were necessary, to the end that his rational creatures might behold, both in the minute and the vast of the Material Universe, his wonderful ways; without which those creatures could not have a right conception of him as the Almighty.

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The chief characteristic of Matter is MOTION.

8. PLANTS.

[Here state the generally accepted theory of the processes by which the Earth was converted from a nebulous mass into a solid globe capable of sustaining life ; by which it became molten, and then cooled on the surface to form a permanent crust ; and by which the lowest Vegetable Organisms had their origin, and gradually proceeded, in an ascending scale, to higher orders of Plants. Contrast this theory with the Bible account of such growths ; assume the theory to be correct, although it is not necessary that we should commit ourselves to it ; restate and apply our theory of the origin and perpetuation of life in such organisms ; refer to the "Development Theory" and to the claims of Geology, as discussed in Division IV., Subdivision 10 ; point out the necessity of the Vegetable Kingdom as a means of transforming matter into substances to furnish "nutriment" for the sustenance of animal organisms ; and verify the whole by quotations from Scripture. Then, speak of the probability of there being other worlds in which the same processes have been carried on ; add some speculations on the past age and future duration of the Material Universe ; descant upon the reasons why so small a globe as the Earth was selected for such momentous events as were evidently designed to follow and to be dependent upon the initiation of Life linked to Matter, which we behold in Vegetable Organisms ; and deduce, from Science and Scripture, a harmonious plan by which it will appear that God's wisdom, power and goodness could not be adequately displayed, to human comprehension, without the existence of Plants.]

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The chief characteristic of Plants is GROWTH.

9. LOWER ANIMALS.

[Here continue the subject, from the first growth of vegetable organisms to the first appearance of Animal Organisms, on the Earth. Pursue the same methods, to show that God's wisdom, power and goodness could not be adequately displayed, to human comprehension, without the existence of the Lower Animals, here, on *this* Earth. Refer to the "Development Theory," and to the claims of Geology, as discussed in Division IV., Subdivision 10 ; point out the necessity of the Lower Animals as a means of advancing another step in the transformation of matter to furnish "nutriment" for the sustenance of higher orders of animal life, until the culmination in man, as the highest in the ascending scale, is reached ; state what is said by Naturalists concerning the "Reasoning Power of Animals" ; and do not omit to mention the intimations of Theologians in respect to their *moral responsibility !* Then speak of the probability of there being other worlds in which the same processes have been carried on ; and verify, by Scripture, all that we affirm as ascertained fact concerning these organisms.]

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The chief characteristic of the Lower Animals is INSTINCT

10. Mankind.

[Here continue the same methods, from the origin of Plants and Lower Animals to the creation of Man ; show that God's wisdom, power and goodness could not be adequately displayed, without the existence of Mankind, here on *this* Earth. Refer to the "Development Theory," and to the claims of Geology, as discussed in Division IV., Subdivision 10 ; and point out the necessity of advancing to this final step in the transformation of matter, to the end that the former creations of the Earth might be best utilized. Observe the distinctions between the three stages of Life linked to Matter. viz. :—

1. Plants,
2. Lower Animals.
3. Mankind.

Show the dependence of one upon another ; draw ~~a~~ dividing lines between the laws of Order, Instinct and Obedience ; dwell on the important differences between them ; speak of the probability of there being other worlds in which the same processes have been carried on ; and prove, from Science and Scripture, that there can be no true *moral responsibility*, except in the existences of Angels and Mankind.]

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Immediately after Adam's fall to disobedience, it was foretold, and, thenceforward, throughout the Old Testament, it was made known that God the Son would become a Man ; suffer and be put to death as a Man ; and the New Testament tells how these prophecies were fulfilled. (See Division VII., Sub. 8.) There are undoubtedly many inquirers who want explanations of how such a procedure can be reconciled with reason; and they will not be satisfied with either *ipse dixit* of Professor, or injunction to faith by the Priesthood. They can believe any alleged miracle which does not involve a mental contradiction; and they so believe simply because they can conceive such a performance possible to supernatural power. But no miracle can make two and two any more nor less than four; neither is it possible for God or Man to be and not to be at the same time; nor can any definite entity, whether in heaven or in earth, occupy more than one place at the same time. Any thing these inquirers cannot conceive to be possible they cannot believe. (*Ante* p. 95.) They will ask, If God the Son is embodied and sits upon a throne, did he vacate that throne when he became man? During his humanity was he within the bodily substance of the Son of the Virgin Mary, beginning with the "conception" and ending with his "ascension"? If so, how can this be reconciled with reason? If not so, how otherwise could it have been? It would be better not to answer these questions at all than to answer them vaguely. This is the greatest of the recorded miracles. All other miracles we can conceive possible with God, because they involve nothing more than setting aside the ordinary laws of nature, for a time; like walking upon water, turning water into wine, healing the sick, raising the dead to life, transformations, transmigrations, transfigurations and translations. Can we likewise conceive the possibility of this greatest of miracles? We think it is not only conceivable, but that the process by which this and every other miracle ~~was~~ were wrought may be raised by science, alone, to probability; and, by science and Scripture, combined, to certainty. It was by reason based wholly on science that we ascertained the existence of Infinite Spirit, as the First Cause, as the Great Originator, as the Intelligent self-moving Power who created matter, gave it motion, subordinated this motion to law, and quickened it into life to produce vegetable and animal organisms. (*Ante* pp. 186.) If a Virgin should now be found who had given birth to a child, and we had no supernatural revelation concerning the process of generation, we would, on the hypothesis that she certainly had not been impregnated in the order of nature nor by artificial means, be able to discover that the same Power who caused life in Man, brought about a condition of things in her body to produce this result; first, by direct action of Spirit; and, secondly, by nutrition and growth, in the natural way. On the hypothesis stated, we could arrive at no other conclusion. The Chemist can, by analysis, ascertain the constituents of the germ of an egg, such as carbon, hydrogen, oxygen and nitrogen, and the proportions of each; and he may take the same elements, and make them combine in the same proportions; yet, he cannot, by synthesis, revive that germ, nor produce another; at least, he has not been able, thus far, to do this; and he, probably, never will. It needs to be invested with life, which can, on our theory, be alone imparted by Spirit. (*Ante* pp. 187, 264.) The Chemist fails to produce life, even in one of the lowest organisms; (*ante* pp. 131, 264;) while God has power to convert such a combination into a living germ or "seed," to be gradually developed to maturity; or, he can convert the same into a matured creature of the highest order, at once. To concede his existence and deny to him this power would be absurd. This much we know, without the Bible. Aided by that Book, we may advance a step further. We there find this account of the process:

> Matt. 1: 18. "Now the birth of Jesus Christ was on this wise: When as his mother Mary was espoused to Joseph, before they came together, she was found with child of the Holy Ghost. 19. Then Joseph her husband, being a just *man*, and not willing to make her a public example, was minded to put her away privily. 20. But while he thought on these things, behold, the angel of the Lord appeared unto him in a dream, saying, Joseph, thou son of David, fear not to take unto thee Mary thy wife: for that which is conceived in her is of the Holy Ghost. 21. And she shall bring forth a son, and thou shalt call his name JESUS: for he shall save his people from their sins. 22. Now all this was done, that it might be fulfilled which was spoken of the Lord by the prophet, saying, 23. Behold, a virgin shall be with child, and shall bring forth a son, and they shall call his name Emmanuel, which being interpreted is God with us. 24. Then Joseph being raised from sleep did as the angel of the Lord had bidden him, and took unto him his wife: 25. And knew her not till she had brought forth her firstborn son: and he called his name JESUS."

We find no scientific difficulty in understanding how the *Omnipresent* Holy Ghost should "beget," or aid nature to produce, a child from a Virgin. Such an act would rank with ordinary miracles ; all of which are equally conceivable ; and one of which is no more difficult than another. (*Ante* p. 80.) Neither would we find any scientific difficulty in understanding how God might delegate to that child, or to any other creature, Divine wisdom, power and goodness. The heathan finds these attributes, in various phases, personified by "myths" ; (which title see in *Chambers' Ency.*, Vol. VI., p. 644 ;) while the Christian is taught to look for these as belonging to God alone, who delegates them only to Angels and to a few of his prophets and apostles among Men. We can see how God, in the Godhead, could do all this, through the agency of the Holy Ghost, without diminution of substance, nor alteration of form ; and the only difficulty lies in the idea, supposed to be involved in the narrative, of the actual transformation of God the Son, a coëternal existence with God the Father, and "equal with him," into Jesus the Son of Mary, "a man of sorrows and acquainted with grief." (*Ante* pp. 207, 208.) We believe such an idea is not only reconcilable with reason but is so far consistent with God's wisdom, power and goodness, that these attributes could not have been adequately displayed, to Man's comprehension, unless this transformation did actually take place, precisely as the Scriptures declare. (See *Post* Dist. VII., Sub. 8.) The passages we have quoted to show the existence of the Godhead, and of the three Divine Personalities in it, sufficiently prove that God the Son was an embodiment; a definite entity ; begotten of *substance ;* with form and stature. (*Ante* pp. 223, *et seq.*) It is not so immediately apparent how this Divinely embodied personality could be thus transformed into a human being, and have the process of being "born of a woman" worthy of God. A little reflection, however, will enable us to perceive that when the Holy Ghost had completed the preparation of the "earthly tabernacle," in the birth and growth of Jesus, the "King of kings and Lord of lords" came down from his throne, left heaven, and became imprisoned in that specially prepared body of a Man. This only needed an exercise of the same power which he displayed when he wrought other miracles. The Triune God thereby made a sacrifice, compared with which all sacrifices of all morally responsible beings become insignificant. The delicately bred prince, at one of the prosperous and refined courts of an earthly kingdom, would suffer much more, if reduced to "want," than would the "son of toil." It is on this theory that Mankind have, from generation to generation, preserved a system of "ransoms," by which, among prisoners of war, one of higher position will be accepted in exchange for several of lower rank; a system much abused, no doubt; yet, it is one based on a correct principle. It has been the practice, in some countries, to carry the system so far as to allow a *condemned* prisoner to be ransomed by a "substitute"; who suffers the penalty, while the real offender goes free. In the earthly kingdom mentioned, the prince,—mayhap the only son of the king,—would be accepted as a substitute sufficient to ransom all the condemned in that principality. Why? Simply because his sufferings, in view of his past experience, would be considered greater than theirs. Hence, the magnitude of the sacrifice both he and his father would make; and, hence, the very deep sympathy the citizens of that kingdom would feel. Invest that prince with supernatural attributes resembling, to some extent, those possessed by God the Son, and the magnitude of the sacrifice made and the depth of the sympathy felt would increase in a ratio proportioned to the perfection of those attributes in the substitute. When the Omnipotent Son became a ransom for our "fallen race," his substitution would have been a mockery, would have failed of its purpose and would have been unworthy of God, if it had not been *complete*; "without equivocation, mental reservation or evasion." The human tabernacle of flesh must really contain him in such a way that he, as God, is there, and not elsewhere; certainly not in heaven; for there the throne is then vacated by him who is alone entitled to sit thereon. The Father is there; it may be surrounding the empty throne, as if it stood in the midst of a triangle; and the Holy Ghost is there, proceeding from the Father; and Omnipresent, as before; but the Son is *gone*. And the heavenly host, probably for the first and last time, is sorrowful. Theretofore, it is probable that all his supposed appearances on the Earth were manifestations of the Holy Ghost; (*ante* p. 240;) but, now, this sacrifice demands his personal presence; and it dwarfs all other sacrifices recorded or conceivable. We will dwell on this in other places. (*Post* Div. VII., Sub. 8; and Div. X. See *Elements of Psychology*, by M. Cousin, p. 204.) We have done so, here, in this Division, only so far as it is necessary in order to show that Life linked to Matter has been raised in dignity, to the highest degree conceivable, by God's becoming Man, and in order to explain that this condescension was not only consistent with reason, but that without it, (we speak reverently,) Man's place in the Divine Government would have been less desirable than that of the "beast that perisheth."

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The chief characteristic of Mankind is their amenibility to the law of OBEDIENCE.

THE EXISTENCES IN THE DIVINE GOVERNMENT GROUPED AND FURTHER CONSIDERED.

We have said that there is a Divine Government, in which the Governor and the governed comprise the Universe ; and we have endeavored to make clear that, in this Government, the Governor and the governed are comprised in these, as the Totality of Existences, viz :— [See same *ante* p. 200.]

All these Existences, together with those Physical, Vital and Spiritual Forces which are exerted in fixing or moving them, are subordinated to Law ; in respect to which it may be further said :—

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LAWS FOR EXISTENCES.

1. For God the Father, OMNISCIENCE.
2. For God the Son, OMNIPOTENCE.
3. For God the Holy Ghost, OMNIPRESENCE.
4. For the Godhead, IMMUTABILITY.
5. For Heaven, IMMOBILITY.
6. For Angels, HOLINESS.
7. For Matter, MOTION.
8. For Plants, GROWTH.
9. For the Lower Animals, INSTINCT.
10. For Mankind, OBEDIENCE.

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LAWS FOR FORCES.

1. For the Attraction of Gravitation, CENTRALIZATION.
2. For Chemical Attraction, PENETRATION.

3. For Cohesive Attraction, OUTWARD CONTACT.
4. For All Forces of Attraction, POLARIZATION.
5. For Vital Force in Plants, NUTRITION.
6. For Vital Force in Lower Animals, INTELLIGENCE.
7. For Vital Force in Mankind, REASON.
8. For All Vital Forces, REPRODUCTION.
9. For Spiritual Force, INDEPENDENCE.
10. For All Forces, HARMONY.

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Before the work of Creation was begun, or the Divine Government established, God was the All Alone ; and we trust it is not irreverent, nor even presumptuous, for us to think of him and of his manifestations in any way not forbidden by the Bible. While we are there taught that it is beyond our reason to find out, as ascertained fact, more than he has seen fit to reveal to man, it is proper for us to form any conceptions of him and of his works not thus forbidden ; and this we may do with the view of showing that certain effects, said to have been caused by him, are not contrary to reason. Whatever is not there forbidden, in letter or spirit, is permitted. But, in forming these conceptions, we should take care lest, in supposing what may have been his procedure, we presumptuously assume to say what it actually was.

It is not contrary to reason, nor contrary to Scripture, to suppose a Supreme Being, when thus existing as the All Alone, to speak thus :—

I AM. There is none else; naught else. I am the All Alone; the only Self-Existent ; the Uncaused ; the Absolute. I am conscious of intelligence; with power to will and to do whate'er I choose. I will exercise this power and choice ; and choose to do only that which is good ;—good, not merely because I will it ; but because it is right. The first exercise of this power and choice changes a Present into a Past, and contemplates a Future. Eternity in the past; eternity in the future; from which to which I am Eternal God. Without beginning, because there can be but one First Cause; and without end, because the existence of the Self-Existent cannot be stopped. These words I utter. They belong to a language I now establish. The utterance of these words converts me from God passive, into God active. This activity does not constitute the beginning; for I was before. How I was before, and why I put forth an action, I know. It is my mystery. I choose to keep it unrevealed. The intelligences I will create, hereafter, will inquire the cause of my existence; and the only answer they will get will be:—I am the Uncaused. They will not understand how this can be; but they will know that something is; that effects are; and that every effect must have a cause. They will know that every cause is an effect of a preceding cause, until they finally reach a First Cause. Some of them will say this cause must have been caused; which will be a contradiction; for, it would be a lie to say a First Cause was caused. I am Truth; I am the First; and I, alone, can know this mystery. The best among future intelligences will say:—There was a void in which intelligence began to act, and that this intelligence was Me. This will always be within the grasp of future intelligences; but how I took possession of this void, they cannot think. I know how it was that I took the initiative; and, when I think it best, I will make it known. I will, first, constitute a Godhead. I will beget a Son of my substance, who will manifest my power; and, I will concentrate in him the fulness of the Godhead, bodily. From me, as the Father, and from him, as the Son, will proceed a Spirit, a Holy Ghost, which will manifest our Love. I so choose; and it is so done. We three do now exist; three Persons; but only one God.

Father. Let us commune together.

Son. We dwell in neither time nor place. Instead of time, it is an eternal Now; and, instead of place, it is a boundless Here. To possess this wisdom, power, and goodness, and dwell thus alone, there is no pleasure ; no glory.

Father. We can picture to ourselves an ideal creation; and behold a panorama of developments of spirit, mind and matter, in both time and space ; all which we now do. Yet, if this were all, it would not be worthy of us. Wherefore, let us now connect this ideal with our foreknowledge of the actual.

All. Be it so. We foreordain the same to come to pass.

Father. While this is thus decreed, mind, invested with intelligence and reason, should not be fettered by fatality founded on our fiat. Mind, thus invested, hould be free to choose between obedience and disobedience of our law. To limit free will, in this choice, except where we elect, would convert the intelligent and rational subjects of our Kingdom into automata. A monarch with such subjects would wield a barren sceptre. Without choice, no love can be displayed ; and, without love, a King cannot rejoice. This will make them morally responsible.

All. Be it so. We do foreordain free will to be coupled with rational intelligence.

Holy Ghost. Except when, in love, we specially decree to elect that some shall choose obedience.

All. Be it so.

Father. The obedient should be rewarded, and the disobedient punished. Let us establish this as the law of our justice.

Holy Ghost. Reserving to ourselves the mercy of forgiveness.

Son. And if the fall to disobedience take form as we foresee, let it be reserved to me to make intercession and atonement for those who repent of their sin.

Father. Except blasphemy against the Holy Ghost.

All. Be it so. Justice shall be tempered with mercy.

Our wrath shall be extended to those only who shall persist in the sin of disobedience.

Father. My Son :—In thee I am well pleased. Let the execution of the Work of Creation be committed to thee, after the counsel of our Will. Let us first establish a dwelling place, where thou, the fulness of our Godhead, may be enthroned as King, in body the archetype of the created rational intelligences which are to be. Thou art the expressed image of God, comely and perfect. Let our mansion be called Heaven ; and let us have it inhabited with spirits, created after the similitude of thy form, who shall be called Angels, and be our messengers, and executors of our will. Let us make them immortal, and delegate to them some of the power which belongs to us as God ; but with a law of obedience, and freedom to choose disobedience, with penalty of endless misery ; for, without the ability to make this choice, we have said there can be no glory. Let us also create other spirits and constitute them first elect of heaven, to dwell near the throne, Cherubim and Seraphim, whose form and service shall differ from all other creatures; and they shall, more immediately, contribute to the manifestation of our power and glory.

All. Be it so. It is so done.

Father. Here come the heavenly host, singing hallelujahs as they approach the Throne. They are now silent, and await instructions from their Lord and King. My Son, speak to them.

Holy Ghost. What thou sayest will be the expression of our joint wish ; for, thou art the Word, in this Godhead ; coëqual and coëternal with us. We are near thee and in thee. The Father will illumine thy mind, and I will prompt thy affections. Thou art the Executive of this Trinity. Speak to them.

Son. Host of Heaven ! Thou art welcome ! Children of the Eternal God ! Come near ; and I will make known why ye were created, what you are to believe concerning your Creator, and what duty is required of you. Ye are morally responsible beings ; and are the first of created intelligences. This language I am speaking has been established by my Father for interchange of thought. He has also constituted this Godhead. We are three in one ; a Divine Trinity. The plan which has been devised, in our communion, concerning this place, Heaven, and its inhabitants, and concerning the works of Creation and Providence which are to follow, have been foreordained by a procedure which I will now unfold. [He may here be supposed to repeat the soliloquy of the Father, and the words supposed to have been spoken by the several persons in the Godhead.] Thus, ye are advised of the purpose of your creation. Ye are messengers to execute what we shall ordain for you to do. I give to all of you names, by which ye shall individually know yourselves, and by which ye shall be known by us and among yourselves, the instant I finish this sentence. Ye are thus known and know, *now.* Ye are all created equal, in power to will and to do ; and yet, while ye can, if ye will, be perfect in obedience, we foresee that some of you, in the exercise of your free choice, will attain perfection; some will fall a little short of this; others farther short of this; and, so on, until others still will rise in rebellion. We do not so ordain ; but, it is best that we should declare, at the outset, that we foreknow this inequality of excellence and this disobedience will exist among you. It has grown into existence even now, since I have given you names. We did not cause this disparity ; but it necessarily follows from the nature of morally responsible creatures. While we give all such created intelligences, without exception, full power to avoid the sin of disobedience, and to fulfill our will to perfection, our ability to penetrate your minds and discover your thoughts discloses to us the fact that ye are, already, unlike in disposition. Cherubim and Seraphim ! fly here, and receive the reward of your determination to imitate thy God in holiness. Ye are preferred in glory. Michael and Gabriel! come forward, and be thou honored as the next in righteousness. Lucifer! stand forth, and take heed lest thou fall. Thou hast already conceived schemes of ambition to be equal with God. Ye heavenly host! beware of him. Any of you who may be in doubt, as to your duty, come to me, and I will encourage and help you on to perfect obedience; and I will then, if ye ask it in sincerity and truth, give you any preferment ye desire, as subjects, in the Divine Government. Ye are now informed concerning the object of your creation and the rule of conduct ye are to observe. Obedient, ye will be rewarded; disobedient, ye will be punished. We will next give you employment, by an additional creation.

Holy Ghost. Ye heavenly host! I now show my presence, which ye see ~~is~~ as a halo around God the Son. I speak to you in love. I am the Comforter. I exhort ye to heed all our words. If any of you become weak in the faith, call upon me, and I will show you how to turn from the ways of the disobedient to the wisdom of the just. Oh, Lucifer! pause and consider. Thou art great in promise of high aims. I exhort thee, in love, to give over the scheme of pride and ambition dawning in thy thoughts!

Father. My Son hath declared me. When ye see him as the Body, ye see Me. He is of Me, and in me, and I in him. The expression of intelligence which ye behold in his countenance proceeds from me as the Mind of this Godhead. The halo which surrounds him proceeds from the Holy Ghost as the Love of this Godhead. I now show myself more clearly. Ye have a glimpse of me, as it were a triangle, in the midst of which the Son sits enthroned. Ye see me light up his countenance so dazzlingly that ye cannot look upon it. Ye turn away in fear; but fear not; ye have seen me as I am. In my Son the fulness of the Godhead dwells, *bodily.* He is the expressed image of our person, and ye are in the similitude of his likeness. Your choice between obedience and disobedience is untrammeled. I am the

Omniscient; the Son is the Omnipotent; and the Holy Ghost is the Omnipresent, who proceeds from Me and the Son, and makes known to us, by heavenly telegraph, all that transpires in the Universe. This Universe, through the Omnipotence of the Son, in communion with Me and the Holy Ghost, will now be extended on a scale so vast that it will excite your wonder. Oh, Lucifer! behold me as the First Cause; behold me as Jehovah. Thou owest allegiance to us; and I warn thee to beware.

Son. Remember these admonitions of my Father and of the Holy Ghost. Now, turn ye from the Throne, and look abroad. Ye there see that we have ordained a larger realm. We have spoken into existence the elements of Matter, and have there suspended them in a medium, called Ether, in and through which the Forces, which shall accompany these elements, may play their part in fulfillment of the Law of Order which we now declare. We scatter them through space; which can only be recognized or measured and which is recognized and measured by visible substances which we create. Before creation was begun the Uncreated said "here," and when he starts a creation it is something apart from him. Then he can say "there," and not until then. Space can only exist when Mind can say here and there; referring from such a point to such a point. Therefore, space has limits. All intelligences, except the uncreated of the Godhead, are caused. Their capacity of knowing is, therefore, limited to the caused. They can fathom space, which is caused and limitable; and it remains with the Uncreated, alone, to fathom the illimitable beyond the confines of space. All that we create constitutes the Universe. What is outside the Universe, is the Uncaused. My Father, as the first in this Godhead, hath given me this Body, which, as a standard of measurement, among morally responsible created intelligences, is in due proportion, and is well fixed. My stature and form are such as my Father hath willed. Had he seen fit he could have made this form different, and this stature more or less ; many millions of billions of trillions more, or many millions of billions of trillions less ; but he has seen fit to fix my stature and my form as ye see ; and they are, therefore, best. They are perfect. Take me, then, as the standard of measurement and form for the embodiment of created intelligences, morally responsible, in the Divine Government. The elements of matter are composed of atoms, so small that none but the inhabitants of heaven can see, or will ever be able to see them. Small as they are, we could have made them many million times smaller, even unto a divisibility beyond the comprehension of any created intelligence, however perfected, not excepting the acute perception of the Cherubim and Seraphim who come next to Me in powers of discernment. Size is of no moment to the Uncreated. With us it is illimitable : but with the created, which ye are, it has a limit. Ye may multiply and multiply, or divide and divide ; still ye will always come to a rest, as with something limited. Ye will find something further on, but you can only fathom it within some limit. We have willed that these elementary atoms shall be as ye see. Look at them. Ye see that they are diverse in size, color and form ; also that they combine and cohere, when brought in contact, to constitute substances, solid, liquid and æriform, by a law of order which we have established. The operation of this law will *Force* these atoms into combinations and aggregations to produce forms of matter both wonderful and beneficent. The elements of Matter, the Ether in which they are suspended, and the Forces which the Law of Order exerts, constitute Nature. Nature is a pure creation from nothing. [He may here be supposed to explain all the Laws of Nature and the plan of the Divine Government as displayed in the manifestations of Matter, Mind and Spirit.] Heaven is built of substance ; so is this Throne on which I sit. Ye see this Mansion, with its dome, pillars, floors and walls. The substances which compose it are not made of the elements of Matter ; but of a special creation peculiarly different. Their colors and shades of color, together with their translucency, irridescence and varying brilliancy, constitute a harmony of hues which no sky or other combination of Matter and Force, in the realms of Nature, can rival or imitate. Heaven, as the permanent abode of the children of Obedience, has been ordained and constructed of substances so different from what lies outside of it that they will find nothing here to remind them of the surroundings of a past probationary existence. The sciences which may enable created rational intelligences to discover the phenomena of Nature, cannot ascertain the components which constitute this heavenly mansion. These must be revealed by us, or remain unknown to all intelligences except the uncreated. The inhabitants of heaven, alone, present and future, shall be fully informed concerning the substances of which it is constructed. [These he may here be supposed to explain to the Angelic host then and there present. If we get there, he will make them known unto us. Until then, we must forbear further inquiry in this direction.]

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We might go on with this supposed method of procedure, at great length, and not be led astray from the teachings of Scripture as expounded by the most orthodox in theology. God would, it seems to us, take delight in making his plans known to his family, the same as one of the best among earthly parents would make known to his beloved and loving wife and children what was in store for them, accompanied by such suggestions and admonitions as he thought well calculated to aid them in furthering his purposes. God probably did not do all this at one time ; but unfolded his plans to them, from time to time, as the Works of Creation and Providence were developed. He has probably continued these disclosures down to the accession of Men's Souls to the heavenly host ; and, then, those Souls became participants, from thence hitherto, in the delights of these teachings. And, thus, it will probably continue, with fresh revelations, more and more wonderful, with a far more exceeding and eternal weight of glory, to those who stand before the Throne. Eternity ! Contemplate its duration, ye mortals! ! Eternity !! It is a long way on, ye calculators of time !! Eternity !!! It has no end, ye finite intelligences !!! In Eternity, there is scope for developments, in the ascending scale of Wisdom, Power and Goodness, absolutely Infinite ! Here is opened to you a Glorious Future, which transcends your powers of imagination ; and this is your inheritance, if ye will but take it.

"Praise God, from whom all blessings flow !
Praise Him, all creatures here below !
Praise Him above, ye heavenly host !
Praise Father, Son and Holy Ghost."

DIVISION VII.

AN OUTLINE OF WHAT THE BIBLE TEACHES.

Introductory Summary.

The first command from God to man was given to Adam. It was the law of

1. *Obedience.*

Its violation was Disobedience. God created man holy; he gave him a nature which would make him prefer good, the synonym of obedience, to evil, the synonym of disobedience. He set before Adam a command as well suited to the infantile mind of primeval man, in respect to a freedom from temptation to disobey, as we can now conceive to be possible. A Farmer gives all the children of the town permission to gather all the fruit from his orchard of a thousand trees; but in order to have them understand that he is the owner, he *reserves* one tree; not because its fruit is better than the rest, but, simply, because he chooses to "do what he wills with his own." (Matt. xx. 15.) It may be that he intends by this reservation to keep the subjects of his beneficence reminded that it is *he* who gives, and not they who take as their own, of the nine hundred ninety and nine of the thousand trees. The justice of this reservation would, on such a practical test, be acknowledged as reasonable. How much more reasonable would be the command of the great Creator of all things to abstain from only one tree among the entirety of created things. The command did not require any physical nor even any mental exertion. It was not in restraint of his liberty ; as if God had said, "Go not beyond these confines." It was not in restraint of his appetite ; for it does not appear that the forbidden fruit was superior to, or unequalled by others, for sweetness or savor or nourishment. For all we know, and judging from the indulgent ways of God, it was, although goodly to look upon, really the poorest tree in the garden. It nowhere appears that the duty required involved any effort beyond what the mind of man can now conceive to be barely sufficient to establish the law of obedience ; which law was absolutely essential to make man a free moral agent, and which free moral agency was absolutely essential to change man from what would otherwise be an automaton. The most probable supposition is that it was a command not to do what involved the least temptation to do. A creature without *some* choice, between obedience and disobedience, could not contribute to the glory of his Creator. Where there is no choice of obedience to an inferior, a superior cannot be glorified. Without freedom of choice, man would be a machine. Free agency is the antithesis of fatalism ; and fatalism involves no idea of glory. To glorify is to praise ; to honor ; to extol ; and to do either of these involves an independent choosing. The test of choice is between obedience and disobedience ; and the command to choose obedience is a law. The violation of the law of obedience brought sin into the world, with its penalties, and rendered necessary a plan of salvation for the fallen race. Had it not been for the sin of disobedience, the Bible would not have been written ; for it treats wholly of the consequences of sin. After the fall,

2. *Sacrifice*

for sin was taught. "Abel offered unto God a more excellent sacrifice than Cain." (Heb. xi. 4.) The depravity of man immediately led to the murder of Abel, and afterwards became so great, in succeeding centuries, that a vast population furnished but one family, in Noah, who observed the law of obedience and made sacrifice for sin. While this family was saved in an ark all the rest of mankind perished in a deluge. "God saw that the wickedness of man was great in the earth, and that every imagination of the thoughts of his heart was only evil continually." (Gen. vi. 5.) This is sweeping language. It includes not only the abominations of Sodom and Gomorrah, and the wickedness practiced at Belthazzar's feast, but every other intensely vile thing the heart of man could conceive in his grossest animal nature. His practices were beastial in the extreme; so that we are told in the next verse, "It repented the Lord that he had made man on the earth, and it grieved him at his heart." (Gen. vi. 6.) Nevertheless, from the day of the fall, down to the close of the record, we are told that "where sin abounded, grace did much more abound." (Rom. v. 20.) Hence a plan of salvation was devised at the outset, and was subsequently elaborated and perfected in Christ. After the deluge, Noah and his descendants were commanded to practice

3. *Circumcision,*

which was intended as a distinctive mark or seal, set upon those who were thereafter to constitute a peculiar people favored of God. Here was an organization like that of a church, which was destined to have a well defined government. Sacrifice was the prominent idea on which a church might have been founded, before the deluge, for the whole race; but there was no church regularly organized until circumcision was enjoined. From that time, onward, God made

4. *Covenant*

with Abraham and others, as representatives of this organized body. The first law of obedience was retained in all its spirit, by fresh commands suited to the varying condition and circumstances of the race. Sacrifices were still enjoined, and the covenant continued good. Yet, the consequences of the first sin took on such various forms, that heavy penalties were often inflicted. Sodom and Gomorrah were destroyed as an awful example. The disobedient children of the covenant were brought to bondage in Egypt and were delivered therefrom by Moses, who was raised up by the Lord for that purpose, in fulfillment of his covenant. Here again, and ever afterwards: "Where sin abounded grace did much more abound." (Rom. v. 20.) The organization then became more complete and solidified. A priesthood was established, and other teachers were, then and thereafter, appointed, to illustrate the law of obedience and its penalties, by

5. *Doctrine.*

Laws, both civil and ecclesiastical, were ordained. These were a consequence of disobedience to the first command to Adam; and, being a continuation and amplification of that law of obedience, it is more appropriate to bring them under the head of Doctrine. Judges and kings succeeded each other; wars ensued, with varied successes, and defeats; idolatry and every conceivable abomination were followed by occasional returns to obedience, until finally, after inflicting upon them many sufferings, God, at last, abandoned them. Throughout the whole of these events there were prophets, to

6. *Prophecy*

many things, for warning to the disobedient and encouragement to the obedient, and for instruction to all; and these prophecies were followed by other prophetic revelations down to the end of the sacred volume. It was foretold in all of these groups of the Bible, called in the New Testament (Luke 24 : 44) the Law, the Prophets and the Psalms, that this persistent disobedience would result in the abandonment of the children of the covenant, (the Jews,) and the substitution of a new for the old dispensation. The

Gentiles were sought and brought in. This new order of things was to be ushered in by John the Baptist, the forerunner of Christ: and

7. *Baptism,*

as a substitute for circumcision, was thereafter to be the distinctive mark or seal set upon the members of the new church; which new church Christ soon afterwards established. He reaffirmed the spirit of the first law of obedience, as substantially taught throughout the "doctrines" of the Old Testament; he dwelt upon the covenant and its promises; he quoted the doctrine as contained in "the law" (the five books of Moses) and the Psalms; he referred to the Prophets and reiterated those prophecies which involved his own death, as an

8. *Atonement,*

which was to be a substitute for the sacrifices of the past, and the redemption of those who believed on him. What was thus begun in baptism, as a substitute for circumcision, was completed in the atonement, as a substitute for sacrifice. The Gospel narrative finishes with the

9. *Resurrection;*

and the whole record is completed by an account of the final

10. *Judgment.*

By this rapid review of the 10 heads we have given, it will be seen that an elaborate commentary on each, successively, would cover the entire contents of the Bible.

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